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An Evaluation of Non-Formal Education in Ecuador

Donald A. Swanson

The University of Massachusetts Project

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Donald A. Swanson

P. O. Box 498

Quito, Ecuador

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It is difficult to conduct a study of this kind without cooperation of many people. I needed assistance in getting answers quickly, making arrangements to interview teachers and students, facilitative support to distant areas, and support throughout the study.

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I would like to thank Miss Martha Albán for efficient and professional typing of this report.

The report was written with many audiences in mind, which has made for some duplication of work. The busy reader could read Chapters Two and Eight for quick summaries, conclusions, and recommendations. The more ambitious reader could read the whole report and get some of the finer details of the study. This has caused some repetition of data and explanation which I hope is not too cumbersome. In addition, many of the important conclusions of the report are underlined for easy reference for the quick reader.

Contents

Chapter One

Beginning and Approaches

The University of Massachusetts/USAID venture into non-formal education in Ecuador has a short, but dramatic history. It has been well described elsewhere [1, 2] and will not be repeated in whole here. Well-meaning and adventurous individuals, in a zig-zagged corridor between Massachusetts, Washington, D.C., and Ecuador designed and developed an innovative non-formal education project that has promise for marginal rural and urban sectors of this South American small country.

After an exerted effort by AID/Ecuador Mission officials to tackle the problem of bringing relevant education to rural and urban marginals, concommitant with a vital interest by the Center for International Education of the University of Massachusetts in the same area, a contract was signed to combine efforts in 1972. They shared a common concern that a critical lack of human and economic resources existed to bring educational facilities into rural areas where some kind of educational enhancement was needed. They saw that an inadequate national coverage of educational facilities was coupled with lack of relevant materials to serve rural people, their experiences, and their needs. Coupled with these findings was a lack of communication, understanding, and interest by rural area teachers in their students, and a lack of school facilities which would be present in the near future.

Non-formal education approaches assume a philosophy of rural development. The University of Massachusetts implicitly determined their philosophy of rural education by formulating a non-formal approach to education. This included not a

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1. "Technical Note # 1, The Ecuador Project, University of Massachusetts, no date.

2. "A New Approach to Community Education," Valerie Ickis, June, 1972.

narrow view of just economic progress, but a broad view that encompassed a multi-pronged approach to root out causes of poverty and oppression, while increasing functional skills and intensifying self-awareness. This study was commissioned by USAID/Ecuador to find out how this Project [3] was operating after a year of experimentation. Since pilot or experimental programs must make critical decisions concerning their future, the study had as its purpose to look into various program aspects, and make possible recommendations for its future.

Project Objectives

A logical place to begin this study was to list objectives from the original contract. The University of Massachusetts/USAID contract for this Project had some explicit objectives which served as the basis for analysis in this study. Those objectives and contractual agreements are briefly outlined here so that we have a common background for discussing merits of this Project. They are:

1. Create and field test a range of non-formal educational techniques using local institutions to implement and support these techniques in field situation.

2. Develop a number of non-formal educational methodologies which are feasible for use by existing Ecuadorean institutions.

3. Implement selected methodologies with institutions, including the Ministry of Education, with on-going evaluation system designed to provide both current as well as terminal evidence of program impact.

4. Make methodologies available to other interested agencies and provide support for their efforts.

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3. The word "Project" is used throughout this study to refer to the U. of Massachusetts program.

5. Devise and test training procedures to carry out these methodologies and use of support materials.

6. Provide technical assistance in non-formal education to the Ministry of Education. Assist the Government of Ecuador and other Ecuadorean institutions develop non-formal education projects." [4]

The Project's implicit goal was "learning skills and knowledge by rural people which would be directly useful to them in their lives and villages." [5] Their objective was to develop materials, create conditions of learning and environment, which would be conducive to learning at the local community level. A major question of this study is whether they achieved this goal.

Since traditional educational materials were found lacking by the Project, they believed new materials should be designed that were "attractive, self-motivating, and useable with relatively little outside input." [6] A major Project concern was to design and develop low cost educational materials that were relevant to lives and rural sector experiences, and that served as learning devices. They believed materials would help generate other learning materials from the community themselves; they would not be ends in themselves, but rather open-ended materials that could be adapted to meet individual requirements. Since this was a core contract objective, the study concentrated on evaluating the makeup of these educational tools to discover their efficacy, acceptance, and general suitability for areas where they were introduced.

A Project goal, although not within the contract confines was to incorporate para-professional manpower into teaching positions in a non-formal educational system. As we shall see,

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4. This is from the actual contract and summaries of the PIOT.

5. "Technical Note #1, Ecuador Project," U. of Massachusetts, draft version, p.4

6. IBID, p.5.

the Project aligned itself to an on-going program of "facilitators" and used these para-professionals to introduce their educational materials and methodology. "Facilitators" were to be trained by the Project and other professional groups, and would in turn work with community participants. It was hoped that facilitators would recruit and train other facilitators in an on-going process that would have a "multiplier effect." While this concept was initially confined to communities where other professional groups were working directly, it was hoped that this model would be applicable for other programs. Can facilitator programs work realistically, and can the process be made systemic? Can it be made systemic without damaging the initial thrust of the idea? These questions were studied in this analysis.

An underlining concept running throughout the Project, although not an end in itself, was the idea of "conscientization," a philosophy developed by Brazilian educator Paulo Freire. This concept was defined and explained within the context of the Project [7], and will not be restated here. To effectively learn, program participants must have a "sense of self-worth and a belief on the part of the participants that they could learn and that they could have an influence on their own life situations." [8] Since Freire's philosophy is central to the learning process in this Project, the study analyzed to what degree "conscientization" was taking place, and what were its manifest descriptions.

Concommitant with Freire's philosophy of "conscientization," the Project meshed the philosophy of Sylvia Ashton-Warner. [9] The Ashton-Warner literacy philosophy encompasses a six stage process of literacy learning. [10] It includes helping

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7. "Technical Note #2, Conscientizacao and Simulation/Games," U. of Massachusetts, pp.1-12.

8. "Technical Note #1, The Ecuador Project," op. cit., p.4.

9. Sylvia Ashton-Warner, Teacher, Simon and Schuster, 1963

10. "Technical Note #5, Ashton-Warner Literacy Method," U. of Massachusetts.

students to learn key vocabulary words that interest them and to increase learning by producing material at the students' level. The Project did not utilize either the Freire philosophy or the Ashton-Warner method exclusively, but rather combined both into a new method called the "dialogue method." We will look at this approach critically.

Another Project goal was to design an unconventional delivery system to match unconventional program objectives. Rather than create a bureaucratic centralized delivery system, they proposed developing learning networks, and delivery systems to match those networks. Instead of using traditional channels for diffusing materials, they preferred to cooperate with institutions desiring to implement materials, and search for alternative delivery systems. While they cooperated with formal school systems, their primary objective was to cooperate with institutions outside regular educational systems.

Since a major purpose of this study was to determine how the Project might possibly function in the future, what directions it might possibly take, we looked carefully into the delivery system. Research in other areas has shown that this is a major "crisis" point when projects develop beyond the "pilot project" or "experimental" stage and attempt to become systemic. This process of becoming systemic tends to make or break some successful experimental programs. The study looked critically at this delivery system as a model for possible program expansion, as well as a model for other programs elsewhere.

Approaches and Methodology

Methodologies for studying non-formal education in the Third World are still in their infant stages. Although programs and projects in non-formal education have existed for years; in apprenticeships, on-the-job training, para-professional train-

ing, etc.; methodologies discerning effectiveness and learning in non-formal settings has only recently been attempted. Adequate methods for analyzing these processes have not been undertaken, so most researchers have sufficed to write case studies, with minimal attempts to analyze learning taking place, or cost-benefit analysis compared to formal learning programs.

This study combined a series of approaches for analyzing the University of Massachusetts program. Since the University already conducted their own Project analysis, this study did not repeat any of those efforts, but selected areas not covered by their efforts, areas where only cursory examination had taken place, and study in subjects selected by the USAID Mission.

Underlining the entire study was an effort to determine "effectiveness" of the program. Effectiveness has always been a tough subject for researchers and planners. After many years of evaluating projects, researchers still ponder over this question.

The Project staff believes that "effectiveness" is not only an increase of functional skills or an increase of literacy, but also action taking place as a result of interaction of receiving educational materials and actualization of the "dialogue method." For this reason, it seemed appropriate to analyze part of the Project using a model developed by Dr. Herbert C. Kelman (see Appendix D for model) entitled "Action as a Step in an Ongoing Process of Attitude Change" to underline processes of individuals changing through action. "Effectiveness" was partially studied by actions participants took as a measurement of efficacy, rather than only analyzing specific functional skill learning.

The scope of analysis included increased functional literacy, productivity, and self-awareness. The Project staff was clear in their definition of effectiveness. It was a combination of both enhancement of functional skills and preparing participants for increased self-awareness and the long process of ongoing change. There is a slight problem in measuring effectiveness - perhaps larger than realized. How does one measure effectiveness?

Does one take tests to determine if the skills are better, or is it more applicable to measure "learning" in the broad sense by evaluating long range possibilities of ongoing processes of change? We took the latter route here, leaving the measurement of "learning" by tests to further study.

We examined critically and systematically facets of the Project so that findings could become recommendations directly useful for the AID Mission and interested readers. Some research was within an analytical framework of systems analysis. To shed light on the program, various methodologies were used. These included designing questionnaires for facilitators and participants in the program, systematic examination of available documentation, extensive interviews with Ecuadorean officials and U. of Massachusetts staff personnel, group discussions with AID officials, unobtrussive measures, and participant observation techniques in the field.

The study avoided using the classical case study approach since other in-house studies were already available. A systems analysis view of the whole program was preferred, with all areas given adequate treatment. We measured internal efficacies of the program and related cost effectiveness, and external productivity with its measure of cost-benefit relationships. This was not a complete cost-benefit analysis, however, since time limits restricted complete analysis, and some broad economic implications required more data than could be obtained. We examined the internal workings of the program - i.e., training, development of materials, and output by participants including community action, enhancement of functional skills, and increased self-awareness.

There are 46 facilitators in facilitator centers in Chimborazo and Tungurahua Provinces. Of these 46, 17 are inactive, for one reason or another, leaving 29 active facilitators. Twenty-two of these 29 facilitators were interviewed, representing 75.8% of the total. Eleven new facilitator centers exist, but only eight are active at this writing. Only four of the seven old facilitator centers now exist, since three have ceased operation. From the

13 available centers, 12 were visited, but only five of the 13 were seen in actual sessions. Most facilitators have gone through a series of interviews with different researchers and investigators in the past. Instead of submitting facilitators to long questionnaires, or formal interviews, it was more profitable to have in-depth conversations. A memorized interview schedule was used and informal conversation ensued without note-taking nor tape recorder, which helped facilitators release themselves and give in-depth answers.

A total of 27 participants were interviewed in the facilitator program out of a total of 269 participants, representing 10% of all participants. Each participant interviewed received a 20-30 minute open-ended interview based on an interview schedule. (See Appendix A for all interview schedules.) The percentage of participants interviewed was lower than hoped for, which was due in part to the unavailability of some participants for interviewing during the day. A more comprehensive participant sample would have been prohibitive in time and expense. Nevertheless, the sample represents a stratified grouping of all participants, both in the old facilitator program and the new facilitator program.

To make a comparison of Los Ríos adult education classes using U. of Massachusetts materials with Los Ríos adult education classes not using the materials, interviews were conducted in that Province. A control group was set-up of five control centers not using Project materials, nor with contact with their methodology. Pilot Project teachers and participants were also interviewed. Only two out of five Pilot Project teachers were interviewed from the U. of Massachusetts adult education group, [11] representing 40% of the total. Thirteen students of 97 from those centers were interviewed, representing 13.4% of the total students. In the control group, five teachers of five planned were interviewed. Twenty-three of 236 total students of those control centers were

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11. One teacher was away from the site during the visit, while two other teachers live in the Sierra and were unable to be reached.

interviewed, representing 9.7% of the total population. (During the study period, the Ecuador Coast was on vacation, and adult centers were not in session. Additionally, Los Ríos Province had an inundation two weeks previous of the interviews, with continual river overflows taking place at the time of interviews.)

A trip to Tabacundo was ma de to study the Tabacundo Radio School Program. Seven of the 52 radio schools there were visited, representing 13.4% of the total. All seven of those radio school teachers were interviewed. The Program Director spent three days explaining the entire program and demonstrating the procedure of that school. No interview schedules were used, but in-depth participant observation methodology was utilized, including unobtrussive measures.

Many hours were spent visiting, discussing, observing, and getting first hand information of the U. of Massachusetts operation at their central office in Quito. This was important since much of their style is an important variable in the program operation. Finally, many visits were made to the USAID/Quito office to converse with officers there, receive critical comments, and elicit appropriate advice for conducting the study.

Education in Ecuador

To understand the environment in which this non-formal program takes place, some background notes about the educational situation in Ecuador are needed. Education facilities in the rural sector are severely limited. Less than half of those in the rural areas of school age actually enter primary school, with many of these dropping out very quickly. It is estimated that one in five children who start the first grade in rural areas actually finish the sixth grade, and nearly half the school age children that begin school fail to complete even two years.

Traditional academic curriculums are prevalent and are usually not relevant to rural sector needs. Formal school teachers usually have limited training themselves, and many have limited knowledge of interests and ambitions of rural people. Educational

materials are scarce and lack relevance to needs of rural individuals, since books and educational materials are related to urban environments, depict urban settings and national aspirations, and stress environments foreign to rural communities.

Rural areas in Ecuador not only lack formal schools accessible to the rural populace, but also learning environments. In urban sectors, even poor or illiterate individuals have exposure to the mass media, a modernizing environment, and the amenities of urban life. In the rural sector, on the other hand, few educational resources exist and learning environments are scarce. Non-formal literacy programs in Ecuador face the problem of not having literary sources for the illiterates who become new literates.

Some 13% of those beginning primary school in rural areas complete the sixth grade, compared with an estimated 55% in the urban sector. Illiteracy rates in the urban area are 13.5%, while in the rural sector they are as high as 85.5%. These statistics hide some stark realities. Drop-out rates, repeaters, and some age ratio to grade data are excluded from MOE statistics. Enrollment in primary schools may show that enough children enter school, but data are not explicit on drop-out rates and early termination.

Since the total budget allowance of the MOE is already 25% of the national budget, it is highly unrealistic that an increase in expenditures for the education sector will be forthcoming. Solutions to illiteracy problems, and adult education, would appear to have to come from other sources in one form or another.

Chapter Two

Summary of Findings

This section brings together most relevant conclusions and summaries about the University of Massachusetts Project. Salient issues are discussed, although in some cases they are only touched on lightly. To avoid repetition, statistical information and evidence is discussed later in the report. Our objective here is to bring together some interesting and important points in one place and emphasize some tentative conclusions. This summary does not correspond section by section to the rest of the study, but is rather a global look at the program.

Philosophy

The Project origin resulted from a mutual felt need by AID officers and U. of Massachusetts personnel, both working independently at first, then together, creating a program that was mutually satisfying. AID Mission officers had perceptions that formal adult education was not meeting rural education needs in Ecuador. They wanted to bring relevant education to rural masses on the fringes, or completely outside the framework of formal education. The U. of Massachusetts perceived that many ideas of Paulo Freire, and later Sylvia Ashton-Warner, could effectively be implemented in rural areas in Ecuador

The AID Mission perceived their development goal as that of ameliorating the illiteracy situation in Ecuador, while the U. of Massachusetts wanted to strengthen self-awareness within the rural communities. AID perceived that the program would become institutionalized at some point, and would become systemic. The U. of Massachusetts people had another view of organization, process, and operational procedures. This conflict between perceived goals was a constant difference throughout the Project. The philosophy of U. of Massachusetts has been "inter-subjective" while the approach of AID has been "objective."

This conflict is not central to this study, but since the Project philosophy is different, revolutionary, much of that philosophy permeates this study.

Project members have a broad view of development and make limited assumptions about diffusing innovation from outside. They view rural development as needing a transformation of economic, social, and political processes to encompass the rural sector in the society. The need was to create an educational process that would change attitudes, increase functional skills, increase participation of villagers, and stimulate more community cooperation. Expertise from outside would come only in response to local needs and desires. This is a more humanistic approach and less use of technological input. Education was viewed in the broader sense of learning; not only technical skills but also broader functional skills. Learning, they believed, comes from action, or an outer expression and manifestation of learning that took place which was primarily "inner-directed." This concept does not reject needs of technical knowledge by villagers, but rejects most authoritarian attitudes and pedagogical methodologies that accompany such interventions. Rather than accepting fixed and traditional syllabi that come with extension service and training programs initiated from outside, they advocated "organic" learning that comes from within. The Project staff did not advocate providing technical skills, but stimulated initiative for skill gathering by participants who would arrive at conclusions to get help for themselves.

Non-Formal Education as an Alternative Learning System

In observing non-formal education as an alternative learning system, we need tangible evidence that one system may be more beneficial than another. Drop-out rates, which are a major problem for formal institutions are much lower in facilitator centers than in formal adult education classes. Yet, cessation rates for non-formal centers is 43% while adult education

centers cease at a rate of only 20-25%. The high risk of non-formal centers ceasing exists, but if they continue to meet, drop-out rates will be less. Drop-out rates were parallel or higher in the Los Ríos pilot project than in the control group, and were absolutely lower in facilitator centers than in the Los Ríos program or the Tabacundo Radio program. This indicates that drop-out rates have less correlation with games than with other factors. What accounts for less drop-out rates if they are not attributed to games? One assumption is that facilitators are highly motivated and retain participants on their own charisma and merits. Rather than relating low drop-out rates to games, they are a result of better training, earnest efforts by facilitators, and additional motivation by participants.

One example of low drop-out rates in facilitator programs is that 160 persons began attending facilitator classes in December, 1971. In May, June, and September, 1972, tests were administered to 134, 130, and 127 participants in those respective months. Although some taking exams were not those originally attending initial sessions, it shows that replacement of dropped-out individuals is taking place. This compares favorably with MOE Adult Education reports that the life expectancy of their adult centers is a maximum of six months.

Ecuador has a population of 3,482,000 persons over the age of 15. According to MOE data, 2,477,000 of these individuals read and write, leaving 1,035,000 illiterate. They estimate that 802,000 of these illiterates live in the rural sector. The MOE Adult Education program, with its 933 centers, was able to help only 42,686 adults become literate in 1972. Since the population is increasing at 3.2% a year, approximately 33,000 new illiterates enter the 15 and above age bracket annually, meaning that their program only reduces net illiterates by 9,686 annually. Given this problem of ameliorating illiteracy rates, it is obvious that the present MOE system cannot alleviate problems alone. With its budget of $465,000 annually, and with no expectation of increasing that budget, MOE Adult Education is incapable of expanding

its program to match rural sector needs. Additionally, the MOE is incapable of entering inaccessible rural areas since they establish centers only where teachers might be available and where schools presently exist.

Another measurement used for determining the validity of the non-formal approach is output generated by individual students. How are they different from adults or students who received training in a formal environment? What facts have they learned, what style of thought process do they possess, and how have these affected them as individuals in society? By looking at the output side of the educational system, non-formal learning can be analyzed more thoroughly. While this concept of output required more in-depth analysis than warranted in this study, some general observations were made.

1. Non-formal students receive instruction that is more relevant to their immediate needs than found in formal education programs. Fostered by relevant educational materials, non-formal learners receive instruction in accordance with needs of daily life.

2. Methodology exposed to students is more likely to lead to changing attitudes and behaviors than methodologies implemented by formal adult education.

3. Participants learn survival skills that help them participate more in the community and discover how to change their situation. Participants compile "survival skill catalogs" that contain materials, information, procedures, and approaches for handling community problems. These skills that participants compile, after discussion, help them face Ecuadorean reality.

4. Literacy learning is coupled with technical skill learning which has applicability to the rural sector. By emphasizing a multi-pronged approach of literacy training, consciousness raising, skill enhancement, and self-awareness tech-

> niques, it avoids the real spector of a lack of learning environment in rural areas. Participants create a learning environment themselves -in the rural sector- rather than needing to have it imposed from outside.

Non-formal education has been variously called "adult education," "continuing education," "in-service training," "extension service training," "on-the-job training," along with other equally vague and untidy names. They touch the lives of many people and can make a direct contribution to the national development of any given country. Contrasted to tidy curriculum-oriented formal educational structures, they appear to be untidy, unruly, non-directed, and at times have a tendency to come and go as the wind blows. Aims of non-formal programs are usually unclear, the clientele undefined, and responsibility for functioning spread out over private and public agencies in the country. The present Project has all of these limitations as an alternative learning system which tends to obscure the positive results that are seemingly there.

An International Council for Educational Development study outlines four different approaches that non-formal education can take. Each represents an implicit philosophy by those initiating the program of how to achieve rural development. They are:

1. The extension approach
2. The training approach
3. The cooperative self-help approach
4. The integrated development approach

The extension approach assumes that with inputs by extension services, rural development process can march forward. Training approaches emphasize systematic and specific training in basic skill areas. Cooperative self-help approaches state that the complex rural transformation process must begin with changes in the people themselves. And the integrated development approach tries to coordinate into a "management system" essential components for increasing development. [1]

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1. International Council for Educational Development. Nonformal Education for Rural Development, 1972, pp. 45-50.

The Project emphasizes neither the extension approach nor the integrated development approach. It is using parts of the training approach to train individuals in fundamental skills which would be necessary to engage themselves in other training and development activities. Primarily it is concerned with the cooperative self-help approach, which assumes that individuals must have attitudes toward change, increase their aspirations for betterment, and advance their self-awareness of their own inherent power. While difficult to classify the Project definitely in one approach, according to ICED categories, it appears that this type of non-formal education is definitely not extension, nor the integrated development approach, which are more traditional.

Feasibility Use by Formal Institutions

In our study we attempted to find out if formal institutions could utilize Project educational materials and methodology with ease. We found that formal institutions could utilize non-formal educational games with very little instruction. Games are readily available and easy to understand, so that minimal problems exist in adapting them to other environments. More problems occur with adapting the methodology since this requires an in-depth analysis of the teacher/facilitator himself. Most adult education teachers retain a vertical relationship with students, but the "dialogue method" requires a horizontal relationship. Relationships between teacher and student are cordial, equal, supportive, non-paternalistic, and in facilitator centers they refer to each other as "companions." The six-step method utilized by facilitators, adapted from the Ashton-Warner literacy approach, is distinct from methods practiced in regular adult education programs. It would appear that intensive training is needed to "convert" teachers to the "dialogue method."

The Project staff has supportive relationships with high schools, primary schools, technical institutions, community centers, and other institutions. None of these relationships are formal. As

is described in the body of this report, there are more formal relationships with the Tabacundo Radio School and the Los Ríos MOE Adult Education program. Undoubtedly, these relationships will continue to grow. What are the feasibilities for more relationships? It appears that the U. of Massachusetts can extend their relationships systematically to other key educational institutions in Ecuador. At this point they are reacting to requests from organizations, both in Ecuador and elsewhere in Latin America, but a more positive systematic approach could be utilized to reach organized groups such as the Church, cooperatives, community organizations, and other agencies. In these cases, they could be a resource center for introducing games and methodology to these groups. (See Chapter Four.)

The Project staff is cognizant of wanting a "spread effect" for their organization. Their philosophy emphasizes a non-centralized bureaucratic set-up to administer the program. Rather than have the program administered only from Quito, they prefer to cooperate with institutions and have those institutions serve as "spreaders" or "diffusors" of information. Using an organic administration, which frequently goes out into the field, they contact more interested institutions than by being only centrally located. This "network" technique permeates their whole philosophy. "First generation" institutions receive training, information, and participation directly from the Project staff, and they in turn diffuse information to "second generation" institutions. A list of these institutions is given in their own reports and will not be repeated here. [2]

Most non-formal education programs worldwide are established by international organizations, bilateral agreements between host country governments and other nation-states, or by international private agencies. Few non-formal education programs have initial support from host country governments. This is also the case in Ecuador. The leap forward in any non-formal

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2. "Mid-term Report", U. of Massachusetts, August 1, 1972, pp. 16-18.
"Final Report", U. of Massachusetts, February 1, 1973, pp. 7-8.

program begins when the host country adopts innovations initiated from outside and makes the program national. In the case of Ecuador, no apparent national organizations or institutions were brought into planning and initiating of this Project. It was the invention of outsiders with little initial planning from within. The likelihood of it becoming accepted in Ecuador without major changes is highly unlikely.

It appears that some groups within the Catholic church can provide a base for institutionalizing the non-formal program. The widespread base used by the radio-phonics literacy school in Tabacundo represents an alternative to formal education that is also somewhat formal in its own approach. By attempting to reach out into 52 small rural communities via radio, and increase their literacy skills, the radio school offers an alternative to the formal MOE Adult Education system, and is developing its own alternative system. This alternative system has approval by the MOE and official certificates are issued to individuals for study that parallel MOE cycles. The bureaucratic set-up is small, but it is central. Its attractive feature, as an alternative, is that community "auxiliaries" serve as teachers in small communities. They receive no pay for their services. This alternative could be attractive and may bridge the gap between the formal and non-formal systems.

MOE Adult Education showed a great deal of interest in the Project program. It appears that any relationship with the MOE and the U. of Massachusetts will require official recognition and implicit strings attached by the MOE. Perhaps the Los Ríos project is a model of what that relationship might become. In conversations with MOE officials, it was clear that they wanted control over any program coming under the Ministry. Yet, they are flexible, as was seen in the Tabacundo program, to permit varied models of control. If the Project wants MOE approval for the facilitator program, there will be some control mechanisms in that relationship. (Refer to Chapter Four for more details.)

Motivation and Social Change

The U. of Massachusetts is involved in social change and motivation, and especially in the process of introducing social change. Everett Rogers[3] explains that social change consists of three sequential steps:

1. Invention - the process of ideas being created or invented

2. Diffusion - process of communication to members of a social system

3. Consequences - changes that occur as a result of acceptance or rejection of ideas.

Evaluating the Project by these criteria, we found that the Project was a good innovator. It has invented ideas and materials, successfully diffused them throughout particular social systems, and has initiated positive consequences of social change. We need to analyze motivation and social change taking place within various programs of the facilitator centers, the Tabacundo Radio program, and the other programs.

Participants in facilitator classes are moderately motivated. Many attend sessions for social pleasure, to meet friends and discuss problems, or to play the games. For many it is a diversion from their regular activities, yet regular attendance night after night demonstrates a willingness to learn. Games are certainly a major attraction for most participants. Also, many expressed desires to sit down and discuss problems in their community. It is quite different from a formal classroom setting where "one knows what to expect." Motivation naturally wanes after a period of time, especially in centers where the process

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3. Everett Rogers, Communication of Innovation, 1971, p. 7

of "conscientization" appears to cover the same themes over and over again. (See Chapter Three for further detail.)

Most facilitator participants expressed a "desire to learn" as their principal motivation factor. The second most important factor was to discuss social problems of the community. Although further study is needed to discern complicated motivation patterns, it appears that children attend because of parental influence, while adults attend because of deeper motivation to better themselves.

A disparity exists between motivation by facilitator center participants and motivation by facilitators themselves. Though difficult to quantify this relationship, by many indications participants view the non-formal approach in less innovative terms than do facilitators. Participant motives for joining the program are mixed, but they are as novel as those of facilitators. One impression is that participants remain uninformed of the informal network communication system that exists, and have little overall comprehension of program objectives. In interview after interview, participants expressed little knowledge of the approach, foundation, concept, philosophy, nor program goals. Their goals were limited to learning reading and writing, comprehending a few skills, and keeping themselves occupied at night. (See Chapter Three.)

One indication of positive motivation by facilitators is that original facilitators in the seven original communities have begun to spread their techniques elsewhere. On their own initiative, four out of the seven community facilitators began in 1972 to train other facilitators in surrounding areas. These "first generation" facilitators trained "second generation" facilitators to carry on the same activities. The original seven community facilitator centers has now expanded to 15. Facilitators conducted new training sessions with little outside help from the Project staff. This demonstrates that facilitators are fairly confident in diffusing information to

others. At the same time, however, it appears that economic motivation is an influence for some facilitators. When salaries were cut back by CEMA, at least one facilitator center ceased to function. Other centers may have ceased to function for the same reason. If economics is a partial factor in determining failure or success of facilitator centers, then planners must take this variable into account in allocating resources. Three of the seven old facilitator centers stopped operating, while two are "resting", and only two are flourishing at this writing.

In reviewing the Tabacundo Radio School Program, we observed that the U. of Massachusetts introduced 32 cassette tape recorders into radio-phonics literacy schools in October, 1972, to observe what motivation impact they would have in those communities. This is a slight shift away from their previous model of introducing games and "conscientization" ideas into other programs. Tape recorders were revolutionary elements for bringing together these communities to express themselves in song, discussion, self-worth, and self-expression. Little value was found in those tape recorders for advancing literacy skills or non-functional skills, since they are employed primarily for sypplying these communities means for expressing themselves. Recorded programs by communities are sent to Tabacundo where they are edited for two one-half hour programs weekly in a program called "Campesino Message." Communities listen to this program to hear their own programs and that of other communities on the radio. Motivation has been positively enhanced with these recorders and this innovation has brought positive social change results. (See Chapter Three.)

In general, motivation for social change has been positive. As McClellan[4] and Hagen[5] have stated, human motivation must come along with structural and economic progress, and the Project has made a considerable contribution in this area. If the entire process of development depends in the final analysis upon certain changes occuring in the realm of the subjective, and if modernization is a state of the mind,

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4. David C. McClellan, The Achieving Society, 1961.
5. Everett E. Hagen, On the Theory of Social Change, 1962.

and if the task of development boils down to the blunt need to change attitudes and feelings of people, with proper motivation, then the base for those changes is being built in this program.

Values of Non-Formal Education

It appears from most indications that non-formal learning stimulates adults to read and write as effectively, or more effectively than regular formal adult education programs. For illiterate adults, the advancement of literacy is positive. As adults learn to read and write, enhancement possibilities for strict learning of functional skills decrease. Materials are sufficient for teaching mathematics and spelling, although inefficient, but materials lack for those who already dominate reading and writing. This has induced many facilitators to refer back to traditional MOE Adult Education materials. In fact, facilitators teach games and the dialogue method exactly as they were trained, but revert back to traditional teaching methods when approaching subjects that they were not trained in. (See Chapter Three.)

The Tabacundo Radio-Phonics School provides another good example of positive motivation in a low-cost literacy program reaching a large audience without formal teachers nor formal classrooms. The radio station in Tabacundo provides the focal point for broadcasting a literacy program into indigenous communities. To date, 52 communities with a total of 1,000 participants, are taking courses with the radio-phonic school. Directed by an "auxiliar" teacher, who is literate and has either received formal education or is a graduate of the radio-phonic school, participants go to a central location 5 nights a week to receive classes by radio. Literacy messages are transmitted by radio into these communities by professional teachers in Tabacundo. Auxiliar leaders lead classes to read and write, and act as liaison between the radio and students. Although the U. of Massachusetts has only a minor role to play in this effort, this non-formal approach is very positive. (See Chapter Three.)

Games developed and produced by the Project have made an important and positive contribution to innovative education in Ecuador and elsewhere. Most of the 30 games developed to date have been introduced into communities, with five receiving excellent reports of acceptance, and only five others receiving negative responses. While not efficient for presenting sequential knowledge, they have enlivened classes, stimulated learning, and helped bridge gaps between theory and practice. In one particular case, the game Hacienda (or "juego de la vida" as it is called by rural individuals) has had revolutionary impact for understanding their situation, with ramifications for action-change. Other games, such as mercado and letter rummy, are well accepted in the communities and are helping to increase functional skills. (See Chapter Three.)

The style of operation of the Project staff is positive. Complete with an Ecuadorean national director and national staff members, with only limited American presence, the program works closer with Ecuadoreans than most international programs. They emphasize supportive activities with rural communities, giving those communities confidence and assurance that the program will continue. Their low key rural oriented style is new and refreshing, matching the innovativeness of their approach to learning.

One cannot overlook profound changes taking place in many facilitators, participants, project staff members, and adjunct observers of this program. This is not quantifiable, but has to be seen and observed. Some facilitators who were merely members of the masses in their communities are now individuals who stand out, stand up, and speak out on issues. In some cases they have had close to "religious conversions" into the new methodology, and have blossomed individuals into social change agents. Personality changes and attitude changes are real, with incurring behavioral changes. This toll has not only been on participants, because Project staff members are also going through positive attitude changes.

Disadvantages of the Non-Formal Program

Many disadvantages with the non-formal program exist, which cannot be overlooked among the glow of program values. An immediate distinct disadvantage is the apparent lack of program goals, with no apparent starting point nor finishing point. A tendency exists in the facilitator program for students to drop-out, stop attending, or to be confused with time limits involved in the learning process. This seems to indicate that facilitator centers may need more standardization and with definite goals to motivate participants to continue to attend. Another disadvantage is that participants appear confused with organization and function of the sessions, what larger group represents them, what network system exists, and end goals of the program. In interviews with participants, we received almost complete negative responses concerning program sponsorship and direction. Only approximately 10% of all students recognized the program being tied to a larger network, while the rest relied primarily on facilitator charisma for support of any system knowledge. This personalistic relationship with facilitators is perilous since any shift in facilitators, or their dropping out of the program, may cause the entire program to standstill. (The Project staff views this uncertainty with little concern. Their view is that centers exist only as long as people have felt needs to meet, and when those needs disappear then centers should not exist.)

The non-formal methodology is well imbedded in the program, but it remains a methodology without a system. Participants have little notion of where the "dialogue method" will take them, how long this type of learning will take place, and what form the future will hold. They grasp for meaning in daily classes and perceive needs of having roots. This disparity between staff and facilitators, who feel no goals, aims, nor direction is needed in the non-formal approach, compared with participants who need more traditional goals, is very real. (See Chapter Three for more detail.)

The Project has not developed completely in line with many program objectives. For a pilot program, many facilitators perceived that more support was needed from the Project staff in time and economic resources. Facilitators felt needs of more methodology training and use of games. This prompted many to revert back to traditional techniques of teaching, contrary to desires and wishes of the Project staff. Other communities sustained that coordination was lacking and they harbored notions of being left out of the program.

The Project has failed to devise a systematic delivery system for their materials into formal institutions and to "make methodologies available to other interested agencies and provide support for their efforts," as was outlined in their contract. They have preferred to employ a "cafeteria approach" for scattering materials to only interested institutions, without making efforts to systematically introduce games and methodology through formal institutions. Likewise, they have been reluctant to ferment relations with the MOE, provide technical assistance for that organization, or receive technical assistance from them. (See Chapter Four.)

The Project has no time plan for phasing out over a period of time, nor ideas of how it would operate if it were not an experimental program. Costs and tangible output requirements projected for a substantial period of time ahead are almost non-existent. The administration process is flexible to needs of rural groups and their educational requirements. It does not appear that the Project has any established requirements nor goals for applying their method on a wide scale. Since concepts and coordination on all Project assignments are unclear, nor do they appear to want to be clear, wide differences prevail within the staff on directions that institution might take. Their plan maintains no provisions for effective administration of backstopping services to their local clientele above the local level. Nor, it should be added, are there provisions for eventual staffing and financial support when external assistance is phased out. (See Chapter Four.)

There is a disparity between perceptions of certification by the Project staff and facilitators, compared to those of participants. Project staff and facilitators are less willing to submit the program to control or influence of the MOE. They maintain this would reduce effectiveness of the non-formal approach. By submitting to controls, a MOE curriculum, and a government bureaucracy, much vitality and program spirit would be lost. Participants, on the other hand, are less problematic on this issue. Most participants interviewed would welcome outside recognition regardless of cost. They are less concerned with the non-formal approach than facilitators and the Project staff, and would welcome outside rewards. This will continue to be a constant conflict between participants and those willing to bring them along on the non-formal journey. (See Chapter Three.)

Facilitators and participants expressed a concern for legitimizing their activities, and would readily accept certificates that would demonstrate that validity of operation. The Project staff is anti-certificate at this time, maintaining that they are developing an alternative system and that certificates would only legitimize their program as an offshoot of the MOE Adult Education program. MOE officials appear ready to accept this program as legitimate, but with strings attached to the MOE. This would require that MOE officials visit centers and conduct examinations like any other MOE Adult center. Old facilitators are vehement in being assured that certification not change nor damage the process of non-formal education, but are willing to discuss this point with the MOE. This disadvantage could be worked out and the certification process welcomed by facilitators and participants. More than likely, a certification process would enhance the credibility of the program. There appear to be two alternatives: 1) the Project staff could develop an alternative certification process in which participants and facilitators would receive a U. of Massachusetts certificate for completion of classes, or 2) the MOE certificate could be issued that would legitimize activities but that are based on the non-formal philosophy. (See Chapter Four.)

In another area, we found that the Los Ríos experiment met with inconclusive and mixed results. The venture to supplement teachers' salaries for full time community development/adult education activities was not successful since productivity and effectiveness did not match expenditures in that program. It also appears that more training is needed in formal situations to assure that adult education teachers know and utilize non-formal materials and methodology. (See Chapter Five.)

Non-Formal Approach Outside the Formal System

One area on the minds of all program observers was what direction it might take after the experimental or pilot stage. Throughout this study we asked, if we were to propose a model of operation for this program after the experimental stage, what directions might it take?

A workable model that might provide a framework for the Project after the experimental stage was sought. In most undiplomatic terms, the U. of Massachusetts wants as much independence as possible and prefers not to have integral arrangements with other organizations. It prefers to collaborate only indirectly with the MOE since it perceives that government agency as an entrenched bureaucracy not receptable to innovative ideas. On the other hand, the MOE probably will only cooperate with the Project if it can maintain certain controls over them. Given this seemingly irreconceliable situation, it appears that another approach might be most beneficial. The model, explained in more depth later, utilizes the Project as a "resource center" with freedom of movement to operate with various institutions. As a resource center, it would engage in formal agreements with the MOE or other formal institutions, and informal agreements with different Ecuadorean agencies and organizations. It would continue many of the same activities, but relationships would become more formalized in some instances. (See Chapter Four.)

The U. of Massachusetts is in a unique position to service and render technical assistance to many organizations from its independent position. Hopefully, it will collaborate with the MOE in the educational field, and cooperate with the MOE in defferent projects. Much like the spokes of a wheel, with the Project in the center, institutions would relate to the Project directly, and also relate to each other. The Project would provide materials, methodology, audio-visual materials, support for innovative programs, and training for these institutions.

This present model has some precursor models that could be studied and which take somewhat the same philosphy as this non-formal education approach. The Comilla Project in Bangladesh is a pilot experiment program in a limited geographic area which is independent but receives aid from the national government. Tanzania has a Cooperative Education system, which is not part of the formal education system, but has government support, and is concerned with cooperatives that help shape an agrarian society withing that countries' line of socialism. Finally, closer to home, Colombia runs a program called Acción Cultural Popular which is a non-government nationwide educational service that uses communications media. These projects, and others could be studied for their relevance for Ecuador.

This summary examined some overall salient points that were found in this study, but it is not exhaustive. Sections following will elaborate on these items. No attempt made is given to conduct a case study of the programs within the project, since we are attempting to cover all subjects together. The reader should be aware that the Tabacundo Radio Program, the facilitator program, the Los Ríos Adult Education experiment, and inverventions into SEV and other institutions are separate programs, although they are discussed jointly. Instead of the case study for each program, we are cross-cutting each project to find similarities and differences, and comparative judgments. Much of the same material will be presented again in more detailed fashion, creating repetition of date here, but this is somewhat inevitable given the nature of the summary.

Chapter Three

Project Materials and Techniques

We are more specific here in evaluating the program from development of materials to implementation and reception of those materials. A critical look at procedures used for introducing and teaching educational materials from the Project staff to transmitters of the information is made. We look at methods of transmitting methodology and materials, and also look at the recepients. Throughout this section, the goal is to find out if materials and methodologies are teaching people to learn, and ask if this is education.

Materials Used in Project

The University of Massachusetts looked for a vehicle to convey and transmit information which would be both appealing to rural Ecuadorean individuals and at the same time "deprofesionalize" rural education. After many discussion sessions they arrived at the method of using educational games to transmit ideas, skills, and philosophies. This satisfied the contract with AID and its mandate to develop educational materials that would lead to development of functional literacy skills, and augment math skill development. Their philosophy for developing materials was that they be "feasible"; low in cost and acceptable to recepients.

Project designers understood that material development was a keystone to the non-formal education process. Games and other educational materials were to be open-ended so that variations and extensions could take place. They were to have a strong motivating ability, be fun, and spark learner interest. Since non-formal education had no external reward systems built into the learning process, educational materials needed inherent internal rewards for learners.

Project staff members perceived that existing traditional materials had little relevance for rural sector people, so they designed materials with immediate relevance to users in local situations. Materials were designed to appeal to villagers

with little or no formal education, and that made little distinction between "subjects" in the traditional sense. Games were to be practical and within the context of local folklore and customs, with information learned from games being incorporated into their daily life activities. They were designed requiring little explanation and minimal literacy skills to play and get satisfaction. The hope was that games would become "self-generating" and help a long process of creating games developed by rural participants themselves.

Some learning objectives were implicit in the development of games, although no concrete goals nor anticipated goals were set forth before the Project was initiated. The staff believed strongly that theory did not necessarily come before practice, but rather theory would develop along with practice. One result was that the games were not efficient for presenting sequential knowledge for learners.

Everett Rogers stated in his latest book[1] that "an important factor affecting adoption of any innovation is its compatibility with the cultural beliefs of the social system." The innovation of games, in the Rogers' typology, is a "directed contact change" since it emanates from without rather than from within, whereas an innovation coming from within would be an "immanent change." So much the more for a "directed contact change," it must have cultural empathy. Do the educational materials meet these criteria? Although they are sensitive and innovative individuals, they invented many games adapted from American games in the United States. Once acceptable to various groups, they were reproduced on larger scales. Along this acceptance continuum there was questioning and consideration of cultural beliefs, but not at the outset. Nevertheless, the games were accepted readily and willingly into various groups rather successfully.

Three general concepts were used in developing educational games. They were 1) simulation games, 2) fluency games, and 3) expressive games. Simulation games attempted to reflect complex social

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1. Everett Rogers, Communication of Innovation, OP. CIT., p.5

realities by using educational devices which served as discussion take off points. The major example is the Hacienda game. Fluency games were simple numerical and literacy skill games. Expressive games were designed to have rural sector participants help themselves. Some of these games have been explained in written technical notes and in other documents by the Project staff, [2] and will not be elaborated here. The study is not concerned with describing games themselves, but rather in their efficacy for transmitting information.

The games serving as techniques for transmitting information and "conscientization" are broken down into three functional categories. Those games are listed below for reference.

Project Educational Materials

Games used in virtually all projects	Games used only by facilitators and Los Ríos	Games pilot-tested
Letter dice *	Concentration game	Letter assembly
Number dice *	Tic tac toe	Coop accounting
Word rummy *	El chulo	Feria
Hacienda *	El burro	Word bingo
Match bingo *	Coop game	Twenty-one
El mercado *		Flip
Math pinball		La comida
Math ring toss		Nutrition game
Roulette		Rubber stamps
S.A.W. *		El robo

* Asterisk indicates that technique has been especially well received and widely used.

Source: "Final Report," U. of Massachusetts, February 1, 1973, p.1.

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2. "Technical Note #3, Hacienda," U. of Massachusetts. "Technical Note #4 Market Rummy," U. of Massachusetts. "Technical Note #6 Letter Dice," U. of Massachusetts. "Mid-Year Report", University of Massachusetts, August 1, 1972, pp. 3-5.

Besides development of educational games, the U. of Massachusetts searched for a new methodology of non-formal education. The Sylvia Ashton-Warner Literacy Method [3] was meshed with the Paulo Freire method of "conscientization" [4] into a literacy program that they called the "dialogue method." The Freire method presented a philosophy of literacy, but did not deliver working applicability. The Ashton-Warner Method provided both a philosophy of literacy and a method. The two concepts are similar and complement each other well.

The Ashton-Warner method provides an underlining philosophy and approach for introducing literacy enhancing techniques into Ecuadorean rural areas. This Ashton-Warner Method process has been described elsewhere, [5] and description of the six step approach to literacy here is for informational purposes only.

Six Step Approach to Literacy of Ashton-Warner

1. Create a climate of confidence.
2. Solicit from each participant his word (or phrase.)
3. Write these words on cards and give them to their new "owners."
4. Write words in notebooks and familiarize themselves with words.
5. Write words on blackboard and discuss words in class.
6. Begin writing stories and sentences.

The philosophy is more complicated than appears in this description. Participants are encouraged to select words which have "inner meanings" for them. In this way they are more likely to remember words and have more interest in learning. It follows that participants will have "organic words", which lead to "organic sentences", which lead to "organic reading and writing." This does not happen automatically. Miss Ashton-Warner developed a series of drills, and classic learning tools, but participants become interested because words and ideas relate to their culture and experiences, rather than outside imposed

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3. Sylvia Ashton-Warner, Teacher, op.cit.

4. Paulo Freire, Pedagogy of the Oppressed, Herder and Herder, 1970. See also "Technical Note #2, Conscientizacao and Simulation Games," U. of Massachusetts.

5. "Technical Note #5, Ashton-Warner Literacy Method," U. of Mass.

cultural traits and ideas. One problem with this method is how participants move from being completely illiterate to begin the process of becoming functionally literate. The process spelled out in Teacher and in Project documents do not explain this point.

Validity of Material

In discussing validity of materials and methodology, it must be recalled that five sub-programs are within the overall Project program; the facilitator program, the Los Ríos Pilot Project, Tabacundo Radio School program, SEV, and miscellaneous activities. Not all utilize the three types of interventions of games, methodology, and tape recorders, as is seen in the following matrix.

Use of Games, Methodologies, Tape Recorders by Activity

	Games	Ashton-Warner Method	Tape Recorder
Facilitator Program	x	x	
Los Ríos Pilot Project	x	x	
Tabacundo Radio Program			x
SEV	x		
Miscellaneous	x		

Are the games teaching people? Is the methodology working? Previous studies made by CEMA and the U. of Massachusetts staff support the idea that games and methodology are indeed teaching people in functional skills. Measurement devices to test this hypothesis were not a part of this study, so only unobtrussive measures and observation were used to gather information on this score. Further study should

be made by independent investigators to determine whether materials are indeed teaching participants or not, since to date only in-house studies have been made.

Facilitators have little material in which to conduct their classes. They use "cartillas" from the MOE Adult Education program to help teach reading, writing, and spelling, and also advanced material for recent literates. One facilitator used a book received in the army which has basic information about Ecuador, mathematics, grammar, and from this book different lesson plans were devised. Since most students do not have books, or "cartillas", facilitators write lessons on blackboards, and students copy in their notebooks. Most students have acquired a notebook and pencil and use them frequently in the sessions. It is impressive to watch the ingenuity of facilitators to come up with varied and interesting classes from their own creation. One day is dedicated to mathematics in which the facilitator explains to participants addition, subtraction, division and multiplication. Another day is dedicated to traditional civic lessons drawn from the "cartilla" or other sources at hand. Intermixed with these "hard" subjects are discussions of conscientization, community problems, and projects and programs communities want to support.

Most facilitators vary their programs by utilizing the 6 step literacy method of Ashton-Warner. They admit that the first step is accomplished very quickly and needs not be repeated again. From that first step they teach key vocabulary words of interest to participants. Since not all participants are illiterate, some facilitators have broken down the sessions into groups, with one groups working on key vocabulary words, while another group works on reading and writing lessons.

Games are used only sporadically in facilitator centers. They are used only two to three times a week, for an average of three of the ten hours of weekly sessions. This is important to understand, and somewhat of a surprise, that games are not the focal point of facilitator sessions. They are usually introduced in the second half of a session after drills in math, spelling, literacy, etc., have taken place, and are primarily used to supplement lessons.

Games were not developed in sequences so are not particularly designed to serve needs of different levels in the educational process. Literacy games were designed for literates who can use consonants and vocals, while mathematical games were designed more for sequential presentations. Little differentations are made by facilitators of how, or when to use different materials. Since most new facilitator centers only have a few games anyhow, they use them in no particular sequence. In addition, little training was given to facilitators on how to implement games as educational devices. Instruction was given on how to use them, but no apparent training was made to correspond games to classes. The same games are used night after night, with little variations, but participants appear to be as involved in games in each session as if they were new.

Are materials relevant to levels and needs of people participating? Games are positive for meeting needs of the people. Hacienda ("game of life") and mercado are popular with participants and are will received. Participants perceive these games as being relevant to their situations and their needs. If games do not anticipate real life situations, participants interject simulation and socio-drama to make them real. Mercado is popular because it helps participants negotiate daily in the marketplaces, selling their products and buying other commodities. Other games are more functional in developing skills than Hacienda and Mercado, and build up needed skills. Letter rummy is popular in some communities and not so popular in others. (A detailed listing of the popularity of games will be described later.) Games corresponding directly to real life experiences are more popular, whereas games that are more functional are less popular.

Tape recorders used in Tabacundo are relevant to meet peoples' needs. Since the technology used has huge ramifications of technological input, it must be asked what technological impact took place in those communities. Recorders were accepted, one could say demanded, by communities for purposes of hearing themselves on tape. At first, tape recorders were used merely for recording

songs and general banter of the community. More recently tape recorders have been utilized for social criticism, self-criticism, as vehicles for general discussion, and for planning purposes. In one case, a recorder was utilized to record a conversation between a group of campesinos and a large landowner. Consistently, the large landowner had been offering to give land to the campesinos, but would negate these promises to authorities in Quito. Campesinos used a hidden recorder to capture the landowners' words and the recording as documentary evidence. Stages of perfection are occurring in recordings. While at first they made somewhat primitive recordings, today professional recordings occur. They are moving beyond beginning stages of merely recording voices to an advanced stage of recording meetings, conferences, and items of community interest.

Is there a learning effect with the materials? At least one indication of effectiveness is based on laboratory exam tests conducted by the U. of Massachusetts for multiplication bingo and letter rummy games. A full explanation of these game test results is given elsewhere. [6] They showed that relatively significant results were made after groups were exposed to games for a short period of time. Also, results were enhanced when ego involvement, such as betting, was involved. It appears from these results that increased learning does take place for semiliterates in basic functional literacy and math skills.

Another indication of possible game "effectiveness" is demonstrated in the Comprehensive Achievement Monitoring (CAM) tests administered to the original seven villages with facilitators. Tests were given to participants on three separate occasions in May, June, and September, 1972. These tests dealt with participants' ability in math skills. Results showed that participants liked the math games (9.03-9.38 on a 10 scale), had a positive feeling toward math games

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6. "Final Report, Appendix 3, Laboratory Evaluation: Letter Rummy and Number Bingo," U. of Massachusetts, February 1, 1973.

(8.94-9.15 on a 10 scale), could correctly identify numbers (56.7-86.9% average), were relatively good at multiplication, addition, subtraction, and division in correctly solving problems (82.2-86.1% average), yet were much weaker in solving decimal problems (33.5-35.9% average). Although not all the same participants took tests in the same three exams in various months there were 134, 130, and 127 taking tests respectively in May, June, and September, 1972. Only 15% of originating participants were still attending sessions at the end of the test period, which would seem to indicate that test scores would be depressed.[7]

A recent CEMA study[8] reported that materials were weak in teaching spelling and mathematics to community participants in the seven original communities. They attribute this to a lack of training of facilitators by CEMA, who trained the original facilitators. However, CEMA did not conduct scientific examinations of these subjects, making their conclusions rather tenuous.

Use of Materials

Are materials well used? Facilitator centers use games 20% of the total class time, while the Los Ríos pilot program uses them in equal amounts of time. Little data exists on the use of games in miscellaneous activities such as high schools, institutions, and other organizations, but probably they are also used sporadically. In general, there is a positive correlation between the amount of time spent in training use of games and their frequency of use in classes and other situations. Likewise, games are better used in situations where teachers are more highly motivated, understand the value of games as educational tools, than places where this is not so.

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7. "Mid-term Report," U. of Massachusetts, op.cit., pp.19-21. Also see Comprehensive Achievement Monitoring-Report Supplement, October, 1972.

8. "Informe final de la evaluación del proyecto de educación no formal," CEMA, Diciembre, 1972, p.54.

Not many games have been distributed to people in new facilitator center programs. Facilitators want more games, but the delivery system has not matched these demands. It is perhaps a good idea not to distribute all games at the same time so that some games can be introduced later to maintain interest. The problem with this system is that the Project must retrain the same people in new games from time to time. Uncertainty by new facilitators prevails on how to utilize games they possess, which is essentially a training problem.

Materials received favorable reception also in local communities. Most facilitators use games outside of the classroom, with approximately 80% of facilitators interviewed utilizing games in the community. In those cases, they used a community members' home to play games, a facilitators' home, or the local community center. In most cases functional games were not utilized outside class sessions. The game most utilized is Hacienda, which has had second and third generation "spread effects." Many community leaders interviewed, although not members of classes, were throughly familiar with Hacienda. Some other materials also are going through second and third generation passages from one village to another without direct participation by Project staff or facilitators in diffusing these materials.

Tape recorders in Tabacundo are also handled in the community. Most students in those classes are young, so that adults have little access to recorders except outside the classroom. Yet, most recordings sent to Tabacundo are produced by community adults. Auxiliaries organize community meetings with adults for recording daily activities, special programs, and other activities involving most community members.

Games were also analyzed according to their acceptance by both participants and teachers/facilitators. Accurate tabulations were not made for degree of disliking or liking of games, since participants were only asked which game was favored and which was liked least. Hacienda and El Mercado are the most favored games, while dice games are the least favored.

The following list only gives ranking of games elicited from interviews.

Ranking Preference Educational Games

Game	Ranking
Hacienda	High
Mercado	High
Bingo	High
Word rummy	Medium
Math pinball	Medium
Roulette	Medium
Tic tac toe	Medium
El Chulo	Medium
Math ring toss	Low
Letter dice	Low
Number dice	Low

There is a positive correlation between local authority acceptance of the facilitator program and outside use of educational materials. When facilitators received local authority interest in the program, the reception was positive. This demonstrates dynamic leadership -and common sense- by facilitators to get local support. In some cases, however, facilitators have not elicited support from local authorities and experienced more difficult times operating, and attendance usually was only younger individuals. In some cases, facilitators have been branded communists, subversives, and usually do not get community support. This leads to a tentative recommendation that it is worthwhile to get local support, both for advancing use of materials, and for the general well being of centers.

Another consideration of materials is cost. Are games considered expensive? Up to this point, games have been distributed to facilitator groups without cost to them, making it difficult to assess whether material costs are prohibitive for that group. The U. of Massachusetts reports that other institutions are buying materials readily, which indicates that costs are probably

not prohibitive. The staff estimates that it costs $5,236 to develop 30 odd games they have on hand, plus an additional $4,930 to introduce the games into various activity programs. They further estimate that games cost $339.91 per game to be developed and introduced.[9] Representative costs for individual games are letter dice ($.30), number dice ($.30), dominos ($.30), math pinball ($4.00), letter rummy ($.35), el mercado ($.84), addition bingo ($.38), multiplication bingo ($.31), roulette ($.79), ring toss ($2.04), and el chulo ($.08).[10] These costs do not appear to be prohibitive for groups desiring to use the games, but proper introduction of games by staff members would raise overall costs considerably.

Tape recorders used in Tabacundo cost an estimated $1,800, which includes the 38 original tape recorders, cassettes, and batteries. Besides the 1,000 participants in the program who use the recorders, perhaps another 2,600 persons in the 44 communities[11] use the recorders, or 3,600 persons. There is a problem maintaining enough cassettes since the program director wants to maintain a file of all edited programs, plus all salient programs produced by the communities. This means that the delivery system for maintaining sufficient cassettes within each community becomes a problem.

Facilitators Link to Project

Focus here turns only to the facilitator program, excluding the other four sub-programs. After looking at material development, we now look at how those materials are used by facilitators. In a somewhat simplified systems analysis, we move from materials to those who transmit materials and methodology.

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9. "Final Report," U. of Massachusetts, February, 1973, Appendix 1.

10. IBID.

11. Thirty-eight recorders were issued to the Tabacundo program, but only 32 have been issued to the communities. The rest are in their central office, or have broken down. The 32 tape recorders are used in an estimated 44 communities

An original group of facilitators was selected and trained in a pilot project sponsored by the AID Mission, which was conducted and trained by the CEMA consulting group. This project was a precursor to the U. of Massachusetts Project. Approximately 24 facilitators were selected from seven rural Andean communities. They received a 5 week training course from CEMA in literacy methodology, "conscientization," and various methods of heightened awareness. This project started as an independent pilot project by the AID Mission, and was only later directly related to the U. of Massachusetts Project. After intensive training, facilitators returned to their communities to commence work. This process of selection and training of the original 24 facilitators is well documented elsewhere. [12]

Today 17 facilitators from that original group teach in first generation community centers, while the other seven have left the program for various reasons. Nineteen of these original facilitators were men and five were women. The average age was 28.1, and they had an average of 4.6 years of school instruction. [13]

Facilitators maintain loose links with the Project. Once selected and trained, they return to their communities to teach. Old facilitators had been receiving S/.10.00 per day to work in the facilitator program, but new facilitators did not receive financial assistance. Financial assistance for first generation facilitators came from CEMA, but this financial assistance is being phased out. If the program is to expand, will future facilitators require payment for their services, or can we assume that there will be sufficient motivation to serve without payment? Project staff divisions exist on this point, with some members feeling remuneration

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12. "A New Approach to Community Education," Valerie Ickis, op.cit., pp.8-31.

13. "Informe Final de la Evaluación del Proyecto de Educación No Formal," CEMA, op.cit., pp.10-11.

is needed to pay facilitators, while other members maintain is not necessary. This is a crucial question when discussing the overall length of this program, its vitality, and its possibilities of becoming more systemic.

Project staff members visit facilitator centers regularly to give moral support, re-instruct in use of games, give logistical backstopping, converse with facilitators, attend evening sessions, and plan future activities. Some facilitators maintained that not enough support came from the Project staff on a constant basis. In many cases, they stated that closer ties with a local resources would be warranted. Based on interviews with facilitators, it would probably be beneficial to establish a resource center in Riobamba for more direct support. This would have a dual function: 1) to provide constant resource support for facilitators and their centers, and 2) to provide a contact point for moral support and liaison. With the resource center now located in Quito, personnel are too far away for day to day support. Twelve of the 15 centers are located within an hour from Riobamba, while the other three centers are located 1 1/2 hours away in Tungurahua Province. A resource center in Riobamba would provide logistical support and liaison with local authorities, including the MOE. (Action has been taken to set up a similar type resource center at this writing.)

Some facilitators lack sufficient training in the use of games and methodology. They lack security in presenting many games to participants. The link between facilitators and the Project has been loose and some facilitators perceive a lack of sufficient backstopping in their programs. One recommendation is for more training sessions for facilitators in handling games and methodology. New facilitators, which were trained by original facilitators, are less familiar with the games and methodology than the original facilitators.

Overall, liaison between facilitators and the Project is positive. There appear to be no paternalistic relationships with the communities. Their style of operation and model of operation are professional, cordial, and elicit respect.

Facilitator Transmission to Communities

Turning now to the role of facilitators transmitting materials to participants, answers are sought to a series of questions related to their effectiveness, methodology, and respect in classes. We want to know their role in the community, who they are as a composite picture, their availability, and systemic possibilities for future facilitator roles.

Facilitators have opportunities to transmit information in non-formal education that correspond with worldwide needs. An International Council for Educational Development study on non-formal education states that needs of rural education for rural development fall into three categories:

1. General or basic education for elementary understanding.

2. Family and community improvement education to "impart knowledge and skills useful to improving the quality of family and civic life and to strengthening social institutions and civil processes."

3. Occupational education "to develop particular knowledge and skills associated with various economic activities and useful primarily in making a living."[14]

For the first objective, facilitators provide an adequate alternative to formal educational systems, or a follow-up to education provided by the formal system. In the second objective, facilitators provide opportunities for socializing that are practically non-existent in the formal system. For the third objective, facilitators provide foundation background in functional skills which rural people never received, and follow-up and reinforcement for others who may have received some training in formal systems.

Facilitators generally did not play a major role in their community before they were selected as facilitators. Few held any office within the community, and most maintained little power. However, there

14. International Council for Educational Development. Nonformal Education for Rural Development, op. cit., p. 30.

appears to be positive cooperation between facilitators and the community at large. Observation and interviews, coupled with a study made by CEMA,[15] verify leadership qualities by facilitators in respective communities now. This is more heightened in some communities than in others, but is prevalent in all seven original communities. In most cases facilitators have good working relationships with authorities in the cantones, and have used this vehicle for organizing community projects. Since participating in the program their own positions have been enhanced as they have become leaders in their community.

Who is this facilitator? By looking at the following data sheet, we can get some idea.

Facilitator Data Sheet

Item	Old Facilitator	New Facilitator	Total
Men	18	19	37
Women	3	6	9
# Active	13	16	29
# Inactive	8	9	17
Agricultural Worker	17	20	37
Artisans	2	3	5
Miscellaneous	2	3	5
Age range	20-40*	20-40*	---
Average age	25*	25*	---

* Estimates

Perhaps a composite picture might help understand this unusual rural non-formal educator. He is approximately 25 yeras old and works on a small 2 or 3 hectare farm in the mountains of Chimborazo or Tungurahua. He earns approximately $16-20

15. "Informe final de la evaluación del proyecto de educación no formal," CEMA, op.cit., pp. 51-52.

a month growing potatoes, beans, corn, or barley, and selling them in the local markets. He grows small agricultural products also for home consumption. Married, with one or two children, he lives with his family in a small adobe shack. There is no electricity nor water in his home, but he is proud of his home and tries to make improvements. He is basically optimistic about bettering himself, although he has no illusions of becoming rich. His dream is to obtain more land, earn more money, better his present home, and give his children a better life. Although he began primary school, he dropped out after two years of education to work the farm with his father. School was not particularly an enjoyable place for him, but he did learn to read and write sufficiently to help others in his present facilitator classes. He is skeptical about what the government can do to help the rural population in Ecuador, and since joining the facilitator program he realizes even more the ultimate responsibility rests on his own efforts. Attitude and behavioral changes are coming fast these days, as the program is changing him to become a new man. Profound changes are taking place in his views of life, what he wants to do with his life, and how he can accomplish new things.

Facilitators are excellent in attending classes regularly. In many cases, sessions are held in facilitator's homes so that they must be there to attend sessions. Other facilitators must walk as much as one hour to reach centers, but they attend nightly. Facilitators are punctual, active, alert, and at times charismatic. The dedication and zeal of all facilitators is positive and impressive.

The systematic approach for recruiting facilitators at present is to communicate through different communities by themselves, set up a training session by themselves, and coordinate activities of new facilitators with old facilitators. It is not systemic. There have emerged two models for training new facilitators. In the first facilitator training session, old facilitators obtained new facilitators from new communities, trained them, and let them go on their own, giving little follow-up support. In the second model, old facilitators recruited new facilitators, trained them, and act as the "godfather/mother" for new facilitators by rendering un-

solicited help and advice. Both models are applicable in the future communication network system of facilitator groups. Old facilitator groups will die as needs have been met and as groups feel no need to meet. New facilitator groups will grow and wane as needs grow and decay.

Another approach which implies an active role by the U. of Massachusetts, is that of soliciting communities to participate in the program, especially communities that have tie-ups with other institutions. Longetivity of programs is more likely to be extended and the spread effect more likely to increase. It does not mean that the Project will be reaching the most needy nor those groups that do not presently have institutional relationships. Another model is to solicit cooperation by communities that have no institutional tie-ups, and begin to form institutional tie-ups for those communities. This possibility is already being discussed in some of the facilitator communities.

Facilitators have worked in a total of 17 facilitator centers in Chimborazo and Tungurahua. Some are inactive, while others remain active, as can be seen by the following matrix.

	Active	Inactive	Total
New Facilitator Center	8	2	10
Old Facilitator Center	4	3	7

Three old facilitator centers, Ulpan, Sigualo Alto, and Balsayan, have ceased to exist. Apparently interest waned and facilitators ceased meeting. The two inactive new facilitator centers are Cristo Rey and Tumba, in Chimborazo. Tumba was still preparing to begin at this writing, while from all indications the Cristo Rey center will not function at all.

Forty percent of the facilitator centers are located in private homes, 40% in school rooms, and 20% in a community center. Facilitator centers in private homes are those of facilitators or relatives, school rooms used are primary public schools, while community centers belong to the community. A composite facilitator center has a blackboard, a small lantern hung from the ceiling, and small benches used by participants. It is usually cold, dismal, and poorly lighted. A small table is usually available for playing games, but in some cases, ponchos and straw mats are spread on the floor. Participants huddle together in a crowded and unruly fashion. Small children and dogs run in and out of rooms at will, disrupting any order in the sessions, and providing constant interruptions.

Participant perceptions of facilitators is favorable, although this varies from community to community. A CEMA study[16] revealed a favorable response to facilitators. Their overall conclusion was that facilitators were generally respected and were considered as innovators in the community and in classes. In-depth interviews with participants showed complete satisfaction with facilitator performances in classes.

An overall impression is that facilitators teach games and the dialogue method much like they were trained. They were trained in a low key, supportive, non-directed teaching methodology, and use this methodology in transferring information or relating to participants. However, when facilitators teach subjects in which they were not trained, they revert back to more traditional teaching methodologies learned in formal primary school. Methodology used by each facilitator differs. In general, old facilitators, who received more training and indoctrination in the Ashton-Warner/ Freire literacy method, are more "purists" in their use of non-formal methodology. They tend to use less books, more discussion, elicit more participation from the groups, and rely less

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16. "Informe final de la evaluación del proyecto de educación no formal," CEMA, op.cit., pp. 40-44.

on standard textbooks. In contrast, new facilitators with only two weeks of training from old facilitators, tend to be more formal in their approaches. They rely more heavily on formal textbooks for guidance, the MOE Adult Education "cartilla," written materials from different sources, and return to a more formal teaching style. It appears that since they received less training, this is a major factor in not following completely the non-formal approach. One must conclude, therefore, that training is a major factor in how facilitators conduct their sessions.

Facilitator attitudes and behaviors toward participants is positive. This comes from training and also a feeling that all are "companions" in a ship moving along together. This supportiveness to participants is impressive. Younger students with more formal training in primary schools become supportive to older adults without such training. Even in competitive games like letter rummy, each opposing player supports other players to invent and create words.

Other evidence of supportiveness is seen in recruiting students to attend sessions. Unlike regular primary schools, where students are obliged to attend or where recruitment is not a factor, facilitators recruit and encourage participants to attend classes. Since this is non-formal, the program strength lies in this ability to reach into communities soliciting students to attend. In all cases, this was positive. Facilitators announced classes at community meetings, or armed with inspiration from the training sessions, they visited house to house to encourage participants to enroll. In one case, the facilitator persuaded the community president to accompany him to over 25 houses to convince participants to become active in the program. Another facilitator announced the program at the Sunday mass and received the local priest's support for the cause. This voluntary canvassing is laudable since they are volunteers.

Are any learning goals evident? Are they relevant to participants' lives? The only discernible learning goal evident is teaching what participants appear to be interested in. Although most times facilitators invent or create their own lessons, some learning decisions

originate from learners themselves. Facilitators discuss with participants what to learn, and how to go about learning those subjects. In fact, many facilitators begin sessions without a lesson plan, or know where the session might terminate. For an American, the methodology is inefficient, slow, repetitive, boring, endless, since few materials exist and many lessons take 3 or 4 times longer than a normal American classroom. But this does not appear to bother participants, who work earnestly and thoroughly. This is the conflict between time/schedule oriented American investigators and timeless/non-schedule oriented facilitators and participants.

Facilitators do not plan sequential mathematical introductions, nor do they correlate games to match mathematical lessons. One lesson does not appear to have any sequential relationship with other lessons. Spelling, grammar, civic, history,are all taught in sporadic fashion. In these cases, learning goals are not evident, although it has no immediate negative effects. One possible negative effect is that over a long period of time, participants will come up against knowledge that will be incomprehensible because sufficient background for that subject was not introduced. This is an inefficient learning weakness for non-formal education and must be considered in making the whole program more systemic.

Participants in the Facilitator Program

Discussion turns to individuals involved in non-formal education in facilitator centers, using different categories for understanding who participates, to what extent they have access to formal educational environment. This analysis will assess participants' motivation as well as their probability for continuing to learn. This latter will include a survey of dropouts, regularity of participation in the program, and other social, political, economic implications the program has on the individual participant, his community and society as a whole.

Table A lists all facilitator center communities, with corresponding data for various categories, the number of men and women in each center, and totals of those interviewed in each center. There are a total of 269 participants in the 12 active facilitator centers. Of this total, 55.8% are men, 33.0% are women, while only 11.2% are children. As can be seen from Table A, approximately 80-90% attend sessions regularly.

Who is this participant? In the original facilitator program there were 164 participants, with 93 men and 71 women. Approximately 70% of these participants were agricultural workers, 15% housewives, 7% artisans, while 8% held odd job occupations. The majority of participants were 15-21 years old, with the next largest group 11-14 years old. Approximately 15% of participants are over 40 years old. Sixty-four percent of the participants do not have children, while 10% have 4 to 6 children.[17] While the CEMA study was conducted only on the original seven facilitator centers, the data probably vary little with the new facilitator participants.

Who is this composite participant? He is an agricultural worker who toils all day cultivating potatoes, corn, wheat, beans, and other agricultural crops. Life is not easy since most work is done as peon labor for petty wages. Death is a constant factor in his community and fatalism exists all around him. He lives in an adobe house, just like the facilitator, and has little outside money for buying amenities. His wife and children work the farms nearby and help with household chores. He has not attended school because he had to work, or the school was to far away from his home.

Participant motivation for entering the facilitator program is high, although higher for adults than for children. In a study by CEMA,[18] approximately 85% of the original participants stated that they entered

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17. "Informe Final de la evaluación del proyecto de educación no formal," CEMA, op.cit., pp.14-15.

18. IBID, pp.15-16.

TABLE A

Facilitator Center Data Sheet

Old Facilitator Centers	Population	Men	Women	Young People	Average Attend.	Hours Schedule	#Games Used	Where Meet	Most Popular Game	Least Popular Game	# Partic's Interwd.	% Partic's Interwd.
Tutupala	400	12	10	8	20-25	7-9	13	School	Hcda.	Dice	2	6.6%
Guazazo	300	11	4	0	15	6-8	6	House	Rummy	Ring Toss	1	6.6%
Ulpán	Ceased to exist, August, 1972											
Balsayán	Ceased to exist, July, 1972											
Puñachisac	800	20	6	0	22	7:30-9	10	School	Hcda.	Dice	0	0
El Rosario	515	38	2	0	30	7-8	10	House	Hcda.	Mcdo.	5	16.6%
Sigualo Alto	Ceased to exist, January, 1973											
New Facilitator Center												
San Miguel	500	6	6	12	18-20	8-10	3	House	Mcdo.	Dice	5	25%
Cristo Rey	Not Functioning											
San Francisco	300	7	8	10	20-22	8-10	4	House	Mcdo.	Dice	4	20%

TABLE A (Cont'd)

Old Facilitator Centers	Population	Men	Women	Young People	Average Attend.	Hous Schedule	#Games Used	Where Meet	Most Popular Game	Least Popular Game	# Partic's Interwd.	% Partic's Interwd.
Tembo	275	9	6	0	10	7-9	4	School	Hcda.	Mcdo.	1	10%
Pulog	500	10	5	0	15	7-9	4	House	Rummy	Dice	0	0%
Chuquepoio	400	17	24	0	27	6-8	3	School	Rummy		4	14.8%
Chugui	1,000	2	3	0	5	7-9	3	School	Hcda.	Dice	2	40%
Quimiac	1,000	8	7	0	15	7-9	4	House	Hcda.	Dice	3	20%
Cuncún	500	10	8	0	15	7-9	4	House	Hcda.	Dice	0	0%
Tumba	Not Functioning											
TOTALS		150	89	30							27	10%

the program "to learn," another 10% entered for "other reasons," while less than 5% entered "to remember what they learned." It was also found that most students who participated had no education, while approximately 90% with education had less than four years of primary school education. The biggest drop-out rate occurred with those who have least education, while the least drop-out rates occurred with students who had 3 years of formal education.

Approximately 40-50% of participants already dominate reading and writing to some degree before entering the program. Their motivation for learning differs slightly from complete illiterates. In some centers diversification has taken place to account for those literates, and they receive different track systems devised by facilitators. Facilitator centers, like regular MOE Adult Education centers, do not only specialize in literacy. One center has a complete sewing course for women, while another center specializes in training new agricultural techniques. Class members themselves are called upon to teach various sections within the class. In one old facilitator center, a facilitator not particularly strong in mathematics assigned a class member to teach math while he taught literacy to other participants.

Drop-out rates are a major concern for formal and non-formal education. In the facilitator center program, approximately 164 individuals began taking courses in the seven communities in December, 1971. In October, 1972, 103 participants took the final exam conducted by CEMA, 44 of which had begun the classes.[19] This demonstrates that although there is a high turnover rate among participants, they are being replaced readily by other participants. Many drop-out after learning to write their names. This led one facilitator to delay this process of name learning until later in the sessions so that students become sufficiently motivated to continue. Other reasons for drop-out rates given were:

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19. IBID, pp.11-13

1. The distance of the center from place of residence.

2. Rainy season occurred which made transportation and mobility more difficult.

3. Emigration of agricultural workers to other rural sectors to harvest crops.

Although accurate data on drop-out rates for facilitator centers was not recorded, and are not kept by facilitators, some estimates can be given. The overall drop-out rate is probably 20-30% for those centers, which compares favorably with drop-out rates for adult education centers of 45-55%.

The probability of continuing learning in a formal environment by participants after attending non-formal sessions is limited. Non-formal schools are not stepping off points for further education in formal schools. This has been the objective of many worldwide non-formal schools in the past, but is not evident in Ecuador. Rather, this is the only schooling that many adults and young people will ever receive. It is also true that formal schools are not readily available for these non-formal participants. In some cases, schools are not located near communities so that opportunities to attend classes are not a possibility. For adults, it is even less remote, even if there were classrooms, since they must work during the day to support their families.

Participants differ in their motivations for attending but the overall impression of participants is positive. They are a hardy bunch of individuals, largely forgotten by formal educational channels, unable to get assistance from other outside groups, and so have banded together to arm themselves with practical knowledge. They attend nightly sessions despite the cold and poor learning facilities; despite a teacher who is one of them and probably knows little more than they do; despite the lack of outside reward or expectance of receiving recognition for their efforts; to learn and better themselves. Unquantifiable as this may be, it is real and admirable.

Recommendations for Improvement of the Facilitator Program

Suggestions and comments permeate throughout this section, but some outstanding comments can be made here.

1. Facilitators constantly mentioned need for having more supplies for their classes. They emphasize the need for chalk, lanterns, blackboards, writing materials, and reading materials. In observation, it was noted a real lack of lighting for most centers. In some cases, they have nothing more than candles. In cases where lanterns are utilized, they are usually supplied by facilitators from their own pockets. This is certainly an area where outside help would be welcomed.

2. Facilitators are unanimous in suggesting other economic and logistical support for their programs. While careful in their replies, they stated that economic remuneration for their services would be appreciated. One has the impression that this is a fervent hope in the near future.

3. Most facilitators stated that they could use different games. This must be approached with caution, however, since most new facilitators have not received all games they eventually will receive. They are unanimous in recommending the invention of new games that can continually be introduced into the centers.

4. More in-service training is needed, especially for new facilitators. Two weeks training for them simply was not enough. Constant and frequent meetings are needed with facilitators at least once a month, probably on Sunday, in Riobamba, for old and new facilitators. These training sessions would include introduction and training of new games, sequential learning in mathematics, discussion of problems facing facilitators and how to solve these problems, and the spreading of ideas between facilitators. These facilitators should receive remuneration and travel money for attending these sessions. (The meetings held at Choquiví on March 18, 1973, and at Choquipogio on April 15, 1973, are good prototypes.)

5. Participants must become more aware of the non-formal network communication system that is developing. Many are unaware that they are even part of a larger educational system. In many cases, only the facilitators are involved in the new methodology. This increased awareness can be accomplished by creating a small newsletter, recording sessions on tape recorders, interchanges between facilitators in different communities, or simply by facilitators describing the whole communications network to participants. Participants must definitely feel a part of the whole system for the approach to become more systemic.

Chapter Four

Links Between Non-Formal System and Other Institutions

This section of the study deals with the non-formal education efficacy in relationship with other institutions, including its relationship with the Ministry of Education. We explored possibilities of making non-formal approaches systemic, assessed technical assistance given by the Project to other Ecuadorean institutions, and analyzed inputs by Ecuadorean institutions to the Project. Answers were sought to what extent materials and concepts are accepted within the MOE's philosophy of adult education. Finally, a model was designed of the Project relationship with other Ecuadorean institutions.

Technical Assistance of Project to Ministry of Education

The Project contract stated that they were to "provide technical assistance in non-formal education to the Ministry of Education." At the same time they were to "assist the Government of Ecuador and other Ecuadorean institutions develop non-formal education projects." To what extent have they fulfilled this objective? The MOE Adult Education section responded that little input was supplied by the Project to the MOE. They list only assistance provided to the Los Ríos program and the Project participation in a seminar held in San Rafael. Contact between the U. of Massachusetts and the MOE, according to the MOE, has been minimal. Informal conversations between MOE officials and the Project staff have also been minimal. It appears that the U. of Massachusetts did not fulfill its contract requirements to provide technical assistance to government officials, nor attempt to build systemic relationships.

The MOE Adult Education Director maintains that 1973 should be the last year for the experimental nature of the program. The Los Ríos experiment demonstrates that some effective relationship can be enacted between the two groups. The MOE

states that an agreement should be reached in 1973 in which the Project materials, expertise, and the alternative system should be integrated into the MOE Adult Education program.

In cases when the Project provided technical assistance to the MOE, it was vehement in only explaining the new methodology without considering the existing Ministry approaches. Project members maintain that the MOE is not concerned with rural education and only makes minimal efforts to reach inaccessible areas. They state that the MOE has become skeptical about achieving goals in the rural sector and have redirected efforts to areas more convenient to operate. They are skeptical about the efficacy of the MOE Adult Education program, and their interest in literacy for rural campesinos. At the same time, it does not appear that the MOE is receptive to new ideas from outside, so that relationships are necessarily strained due to confrontation of different ideas.

A cordial relationship with the MOE in Los Ríos Province exists. Staff members there have respect and admiration for Project members and are satisfied with efforts made in that province. The Provincial Supervisor there expressed support for efforts in the Province and willingness to cooperate in future ventures. If more such contacts were made, relationships could move from initial cooperation stage to a more fruitful relationship. Much depends on reluctant Project staff willingness to explore new avenues of cooperation, as there is resistance within the Project staff to explore possibilities.

MOE officials insist they have a national plan for adult education that is functional and pragmatic. They insist that the MOE has provincial supervisors who can service additional work and responsibilities from the Project. They maintain that Project materials and staff could be integrated into the MOE program and use existing structure to enhance the program, but some methodologies would have to be "adapted to Ecuadorean reality since many are not now compatible with the needs of the people." The MOE could provide additional personnel for implementing the program on a larger scale, but not handle further economic responsibilities.

Since philosophies are divergent between the two groups, there is little chance these views can be ameliorated easily. It does not appear that the Project staff can live with the MOE model, so an alternative model should be presented. This might not even be an important consideration since AID officers and Project staff are not considering the integration of the institutions. However, AID wants the Project to provide technical assistance to the MOE, and maintain closer ties with that institution. Already the Project staff has a mandate to explore new possibilities of working with the MOE. Later in this section we will explore possible alternative models of operation.

Technical Assistance to Other Institutions

The Project contract also stated that the U. of Massachusetts would "make methodologies available to other interested agencies and provide support for their efforts." This implies some technical assistance to other Ecuadorean institutions and private groups. The Project utilizes four models for training institutions and groups in educational materials and the program philosophy. Those models are:

1. Short-term training by the U. of Massachusetts staff. Training takes place from one day to one week at the site of the institutions or groups, using limited budgets, and using traditional methods of training.

2. Campesinos training campesinos. This model has facilitators training other future facilitators, with financial support from the U. of Massachusetts staff. The Project staff serves only as observers.

3. Office visitors. Visitors to the Project staff office receive minimal "show and tell" training in use of educational games.

4. Non-institutional model, minimal training. Project staff gives minimal "show and tell" demonstration of games in community and leaves games to see what happens.[1]

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1. "Final Report," U. of Massachusetts, op.cit., pp.8-11.

They are comfortable with this activity and cooperate well with other institutions in providing technical assistance. Using these four models, the Project staff collaborates with over 40 groups.[2]

Everett Rogers, in his study of change agents,[3] states that change agent success is positively related to the "homophily" that the agent maintains with his clients. Homophily, by this definition, is the degree to which pairs of individuals that interact share similar attributes. In providing technical assistance to various institutions the Project staff has been inventive, creative, and correct in setting up their personnel staff requirements for this Project. Ecuadorean personnel selected have homophily qualifications necessary to make technical assistance effective. An Andean indigenous was recruited to work closely with indigenous groups. A young dynamic Ecuadorean was recruited as Project Director to run the program. Americans on the staff are unobtrussive and blend into personnel staffing patterns. In case after case, there are instances where an American director would have been less successful than an Ecuadorean in initiating and following-through with technical assistance to various groups within the program.

The Project staff retains cordial relationships with the Ecuadorean Volunteer Service (SEV) and provides good technical assistance to that organization. They conducted a series of "cursillos" for SEV staff and volunteers using games and the Ashton-Warner/Freire literacy method. To date, games are being utilized in eight rural communities where SEV volunteers work. Reports from SEV personnel and volunteers indicate that results are positive in those communities. In addition, games are being used by other volunteers in other communities, but not in classes.

Considerable technical assistance was furnished the Tabacundo Radio School program, and a close working relationship was developed. The Tabacundo school director is pleased with the working relationship and has highest praise for the Project staff. They work as a team, with common interests and goals. Technical assistance has occurred not only with tape recorders, but also with back-up support for aspects of the entire program.

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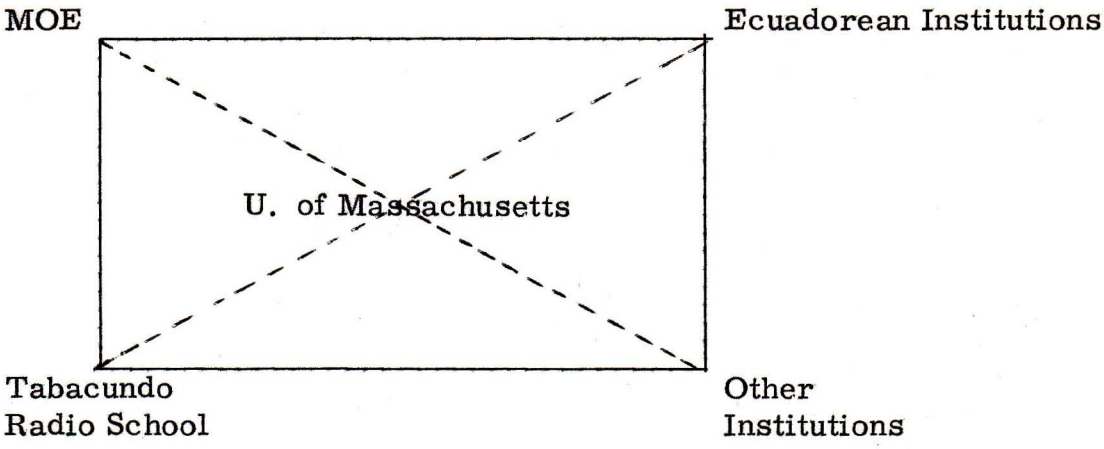
2. IBID, and "Mid-term Report," op.cit., pp.16-18

3. Everett Rogers, Communication of Innovation, op.cit., p.242

Less technical assistance was made available to other institutions requesting games or interested in non-formal education. By Project staff estimates, only 3.75% of their time and resources were devoted to working with these miscellaneous organizations. If the Project is to serve as a combined technical assistance/social change resource center, then more effort must be made to systematize efforts in this area. At the same time, using some findings from this study that intensive training and follow-up are needed to effectively introduce new materials, more systematized interventions will be required than are presently used.

The Project has few formal arrangements with Ecuadorean institutions, so that possibilities for technical input is limited. It appears likely that more sustained relationships could be made with institutions like the Misión Andina (now under direct control of the Ministry of Agriculture), cooperatives involved in rural areas, agricultural extension services, rural primary schools, small rural radio stations, church organizations, and various social and community organizations. It would be valuable to work with rural labor organizations that train and give on-the-job training to workers. If the Project is concerned with rural development, it must begin to search out established rural agencies and organizations. If 1972 were the year of reflection, development, and experimentation, then 1973 should become the year of action, implementation, and developing systematized institution relations.

A model emerges that defines the Project's relationship to other institutions. Since other institutions already have direct relationships with the MOE and other Ecuadorean institutions, the Project can operate as an indirect outside institution furnishing technical assistance to institutions having direct relations with government institutions. It can serve as a "resource center" for a variety of institutions maintaining formal or informal arrangements with government institutions. The Project might support and stimulate the creation of other non-formal institutions that would receive approval by the MOE, with the Project itself maintaining an independent role as technical advisor. A simplified model of this approach is given below.



_____ Direct relationships
---------- Indirect relationships

This type of model, much like a wheel with spokes, permits the Project to maintain its independence as a resource center, but at the same time enables them to provide technical assistance directly to institutions which might be impossible under other circumstances. In this model, the Project becomes a catalyst for innovative programs that need technical assistance, rather than becoming integrated into the formal structure itself.

Inputs of Institutions to the Project

An analysis is given of inputs by the Ministry of Education into non-formal programs, as well as outputs and impacts of the program throughout the Ministry. An answer is sought to what extent materials and concepts are accepted and systemic within the Ministry's programming and philosophy of adult education. Our findings are rather dismal.

There has been no technical assistance supplied by the MOE to the Project staff. The only technical assistance cited by the MOE was a few meetings held sporadically with the Project staff.

Except for Los Ríos project, there has been little interchange between staffs. One might cite the various articles written in Trabajemos, the MOE Adult Education publication for adult teachers, which relate to innovative education that may have had indirect input to the Project, but this is minimal. Doors have been shut, primarily by the Project staff, and a general unwillingness exists by the Project staff to accept outside ideas within the country.

Many differences between formal and non-formal approaches impair input and understanding. The MOE is most recently concerned with any notion of self-awareness content in their literacy programs. In a recent report to all adult literacy teachers, they state that teachers should consider using the Paulo Freire method in their courses.[4] However, the MOE is more concerned with education structure than material content containing ideas of "conscientization." In detailed examination of most MOE Adult Education documents, the general content concerns itself with socialization, getting along in the family and community, helping the country to develop, and similar themes irrelevant to rural sector people. The MOE has one literacy book for the country which assumes cultural values for the entire Republic. MOE officers are aware of this and are making efforts toward a multi-pronged approach. At its present level, however, it is doubted that any content technical assistance input would be valuable for the Project.

If there were closer relationships between the Project and the MOE, and if inputs and outputs were evaluated, there are some definite advantages and disadvantages for establishing more integral relationships. Each of these advantages and disadvantages must be weighed for possible future exploration.

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4. "Educación de Adultos Liberadora," Ministerio de Educación, 1972.

The disadvantages for the Project establishing closer relationships are:

1. Greater operational flexibility without ties. They will retain more independence by working away from the MOE.

2. Ability to recruit abler and more dedicated people.

3. Ability to get better results at lower costs. People are more likely to volunteer efforts with non-government organizations than with government organizations.

The advantages of working closer with the MOE are:

1. Assurance of longetivity of the program. Pilot programs have tendencies to decline sharply or disappear altogether one funds are cut off.

2. Bureaucratic set-up that will assure that program operates. Less changes will occur at the whims of personalities of the Project, and rural leaders can be assured of consistent support. (Many rural leaders have expressed dismay at the uncertainty of future relationships with the pilot program.)

3. Preference of outside funds to support government programs rather than non-government programs.

Inputs by other institutions to the Project have been sporadic, informal, and without apparent direction. Most direction has come from staff members themselves, competent AID/Quito officials, Project consultants, U. of Massachusetts/Amherst staff, and some informal discussions held with sponsoring institutions. Another source has been the constant search through documents, books, articles, research, for relevant materials to diffuse. This is not a serious problem since the staff is creative, innovative, and has serious people thinking about the program constantly.

Our conclusion is that little program impacts are made throughout the MOE. This will not occur until the Project makes exerted efforts to become more diplomatic, willing to work with formal institutions, and accept input from outside. Likewise, we conclude that materials and concepts are not becoming accepted and systemic

within the Ministry's programming philosophy. It will be more difficult to accomplish this objective, based on findings presented here.

Chapter Five

Los Ríos Pilot Project

In this section we evaluate the Los Ríos adult education pilot project. Comparisons were made of non-formal approaches and formal approaches, and non-formal materials introduced into traditional education structures to see what effects, if any, they had on traditional education. Answers were sought for kinds of learning taking place under traditional adult education and the pilot project, development goals in each system, use of learning by students, drop-out rates, and general observations. Costs under each system and cost/benefit analysis will be studied separately in Chapter Seven.

On June 28, 1972 an agreement was signed between the U. of Massachusetts and the MOE Adult Education to begin a pilot program in Los Ríos Province using some Project educational materials on a widespread basis in that area. The Project staff wanted to make closer contact with the MOE by introducing games into a formal adult education system. The agreement stated that the Project would pay 700 sucres monthly for five teachers in an entire 6 month period. They would also provide educational games for those five pilot centers and would visit them periodically to stimulate, follow-up, and coordinate their progress.

There are 59 adult centers in Los Ríos Province. Each center has at least one teacher, although some centers have more than one teacher. Centers are broken down into three cycles, with the first cycle corresponding to grades 1-2 of primary school, the second cycle to grades 3-4, and the third cycle to grades 5-6. This same structure is found throughout the Republic. Each center operates in the evening in a public primary school, and is furnished with materials and supplies from the MOE Adult Education.

Teachers receive various salaries. Five teachers of the 66 total receive S/. 1,200 monthly (those teaching under the agreement), 38 receive S/. 500 if they live in the urban sector or

S/. 600 if they live in the rural sector, 19 volunteer teachers are trying to receive merit, and there are four regular volunteer teachers.[1] Teachers selected to become adult education instructors usually have not received an appointment by the MOE to teach in primary schools. They meet at the beginning of the school year in Babahoyo to attend an instruction course in teaching adults, and are assigned to teach in various communities. Attempts are made to place these teachers in communities near their own home towns, as experience has shown that teachers are more successful when placed near communities close to where they actually live.

Under the agreement, five centers were chosen as pilot centers to work with intensively during the six month cycle of the normal adult education program. They were to be community workers in the day, attempting to find avenues for introducing the educational materials, and adult education teachers in the evening. The 40 teachers who attended training sessions received a 10 hour "cursillo" by the Project staff, including introduction of educational materials and the Ashton-Warner/Freire dialogue method, but the five teachers/centers chosen received additional follow-up, instruction and encouragement. It is important to remember here that the five pilot centers were adult education centers and not non-formal facilitator centers. Pilot centers continued using their formal curriculum and "cartillas," with the only difference being that teachers received more salary, were full time, and Project materials and methodology were introduced.

The five centers chosen were rice cooperative communities under FENACOOPARR, a rice cooperative movement on the Coast. They were:

Center	County	Parrish
Los Ríos	Babahoyo	Caracol
Marcos Venetazo	Babahoyo	Barreiro
Santa Isabel	Baba	Baba
Legua de los Indios	Baba	Baba
El Porvenir	Baba	Baba

1. "Informe anual de labores desarrolladas por el supervisor provincial de educación de adultos de Los Ríos, en el período lectivo de 1972-73." p. 3.

The center in Marcos Venetazo was subsequently dropped from the program, for various reasons, and another center was added. It began operation in November, 1972, and only functioned for two months.

Isla de Bejucal Baba Baba

Formal Adult Education in Los Ríos

To get comparative data on the impact of the pilot program, we needed to understand more fully the formal adult education program. Adult centers are divided into four categories: 1) community centers, 2) artisan centers, 3) agricultural centers, and 4) educational centers. These centers are distinguished by the type of participants involved in the centers, or by the type of community. In Los Ríos Province, only the first three types of centers exist. The pilot program centers were all agricultural centers, while the centers chosen in the control group were mixed.

Approximately 3,880 students participate in the 59 centers in Los Ríos Province. There are approximately 2,299 men and 1,591 women in the program. Unlike the facilitator program in Chimborazo and Tungurahua, these participants are almost completely adults, with few children under 18 years old. Approximately 85% of all men are agricultural workers, while women in the program are housewives and artisans.[2]

Five centers were selected as a control group to compare the formal adult education program with the pilot program to see what differences existed in those centers, and what impact educational materials, follow-up, and extre funding made on the pilot program. Centers chosen had teachers who had not attended the "cursillo" at the beginning of the school year, and were not using any educational games. Those centers chosen were typical of the variety of adult education centers found in

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2. IBID, p. 3

Los Ríos Province. Three centers of Patricia Pilar, Humberto Sánchez, and Juventud Unida are rural adult centers which might be called "classical" centers. They emphasize literacy, history, civics, general culture, and specialize in agricultural training and homemaking. Classes are divided into the three cycles, with first cycles emphasizing literacy and general culture, while the second and third cycles emphasize homemaking and other functional skill learning. The two other centers, Nuestra Señora de Fátima and Odilo Aguilar, specialize more in functional skills of homemaking, cooking, health, and other subjects, with less emphasis on literacy.

Control centers had proportionately more women than men, which is atypical for the region since men outnumber women 2 to 1 in the Province. Drop-out rates were also less in these centers than in the Province as a whole. In the control centers only 49.5% dropped-out, while the overall province drop-out rate is approximately 70%. Class schedules are typical for the Province, running from 6-8 PM, with an average of two hours nightly, five times a week. The five control centers selected had four women teachers, which is abnormal, since men and women teachers in the Province are almost equally divided. Table B below presents pertinent data on the five control centers chosen.

The five control group teachers were all part-time workers. During the day two were teachers in primary schools, one was an artisan, while the other two did not hold down permanent positions. Accurate figures do not exist on age distribution, but the majority were probably between 20-30, while two were older. Two were inexperienced since teachers use this adult education experience to receive merits for receiving an assignment in a regular primary school. Unfortunately, Ecuador has not developed professional adult education teachers. When more prosperous positions are available, teachers leap to those jobs, leaving adult education teaching to inexperienced "green" teachers.

TABLE B

CONTROL LOS RIOS ADULT EDUCATION DATA SHEET

CENTER	Nuestra Señora de Fátima	Odilo Aguilar Pazmiño	Patricia Pilar	Humberto Sánchez	Juventud Unida	AVERAGE
CITY	Babahoyo	Babahoyo	Patricia Pilar	Zulema	Recinto Barrango	
NAME TEACHER	María Luisa Salazar de Valle	Rosa María de Soria	Emma Mechatipán	Carmen Bedón	Jaime Proaño	
# STUDENTS BEGIN	76	250	30	40	72	93.6
REGULAR ATTEND.	64	124	15	25	63	58.2
STUDENTS GRADUATED	40	99	14	20	63	47.3
CLASS SCHEDULE	7-9PM	6-8PM	6-9PM	6-8PM	7-9PM	
Men	10	0	7	25	27	13.8
Women	66	250	8	15	39	75.6
First cycle	36	155	8	15	38	54
Second cycle	24	65	5	10	15	23.8
Third cycle	16	30	3	13	13	13
Drop-out rate	47.4%	60.1%	53.4%	50%	12.5%	49.5%
#Students Interviewed	16	2	7	5	3	4.6
%total Students Interviewed	9.3%	2.0%	50%	25.0%	4.7	9.7

Drop-out rates are high in adult education in the Los Ríos Province. In general, approximately 50 students enter each center at the beginning of the cycles in July of each year, but this diminishes rapidly and levels off to about 15-20 near the end of the year. Many centers never finish the school year because there are no students.[3] One reason for this drop-out rate is job related. Men make up the majority of students, and must leave town during the year to complete harvest in adjoining areas. In other cases some men work at night to cut bananas for export. When rains set in roads are almost impassable creating added difficulties to travel at night to far away classes. Women are less suceptible to work constraints and attend the classes more regularly. In interviews, motivation, boredom, and other factors were not given as reasons for drop-outs. It appears obvious, however, that many adults probably attend only to be able to sign their names or get some functional literacy. Others realize after attending a few sessions that the long process of learning is not an easy task, and they become disenchanted. Under some very difficult circumstances, drop-out rates are not drastic in this program. They are 49.5% in the control group, while much higher in the province as a whole.

Only 30% of the control adult participants had access to formal learning before entering the adult education program. This has not been a result of lack of access to primary schools, since primary schools exist in their communities, but rather because these participants had to work at very early ages. Motivation for learning is high and impressive. Adults go to centers to learn to read and write, gain mathematics experience, and find out about Ecuadorean history and geography. In interviews

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3. Data are hard to believe in many cases. Some centers cease to exist, but remain "ghost centers" on paper so that teachers can receive their monthly salary. Provincial MOE data are generally inflated to impress national level officials with progress made.

given, 90% of participants stated that they wanted to "learn things they could not learn earlier as children and young adults." Approximately 30% emphasized a "desire to learn in order to help the community to improve itself."

Learning appears to be taking place.[4] There is a qualitative difference between adult education programs on the Coast than in the Sierra. On the Coast, adults appear to be more alive and willing to learn than in the Sierra. Students are more optimistic about their conditions, their possibilities of learning, and the value of their education. Great efforts are being made by teachers and students alike to better their conditions. There is no quantitative value of this difference, but observation of the difference of reactions to questions, and attitudes, is remarkable.

Are there development goals? Development goals defined by the MOE are general. They are:

"1. Elevate and defend human dignity.

2. Maintain national integration of all groups in Ecuador, without distinction of socio-economic classes.

3. Restore and defend territorial integrity.

4. Strengthen patriotic sentiment with bases of geography and history.

5. Form conscientious citizens of their duties and rights according to goals of the country and the world.

6. Increase the moral structure of the country, and help all citizens feel equal.

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4. Since this study was conducted while classes were not in session, and since learning measurement devices were not implemented, it is difficult to get a reading on the learning process taking place. Evaluation is tentative on this point and should not be considered definitive.

7. Help citizens to solve their own problems effectively and the problems of the country.

8. Help strengthen Ecuadorean consciousness for international comprehension.

9. Form Ecuadoreans to defend liberty."[5]

These goals state clearly intentions to solidify the country through the educational process, yet there is no mention of the basic skills needed to achieve those goals.

Participants and teachers were both vague concerning learning goals in the classroom. There were no apparent deep felt thoughts about what they want to learn, or why. In-depth interviews could not elicit responses besides the traditional "I want to learn because I don't know anything" level. Results show that 85% of participants "wanted to learn" as their development goal, while the other 15% did not have a response. Some mentioned the need to "know mathematics in order to have a better chance in the marketplace," while a majority also mentioned they wanted to "know more about life." Although development goals are not at the center of their thinking, it is obvious that other hidden goals are there.

Certification of learning was co-equal motivation for attending classes along with sheer desires to learn something new. Since most probably did not contemplate completing all three cycles, their interest in receiving certificates for first and second cycles was not high. However, those attending the third cycle, or had already graduated, the certificate was more important. (Since interviewing took place after completion of the adult education school year, many participants had already graduated. For them,

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5. "Educación ecuatoriana de adultos: fines," Ministerio de Educación, 1969. Translation from Spanish.

the certificate was more important.) In two cases, recent graduates expected to use certificates to advance their job possibilities and leave present jobs for more profitable jobs in the urban sector. The value of certification rose as participants moved from cycle to cycle, and its value was perceived as being more valuable.

The certificate was more important for those living in urban sectors than those living in rural sectors. Rural participants completing the third cycle wanted the certificate for personal prestige within the community, but without any outside reward factor. For urban participants, the third cycle certificate meant increased financial rewards. It assists them in receiving better jobs, can increase earnings in present jobs, and open doors to further study in secondary schools.

How do students use learning acquired after completing classes? Reading and writing were a major learning goal desired by 90% of all participants. Once they dominated reading and writing, 80% of participants considered mathematics as the most useful for their personal lives. In all cases participants felt these were directly related to their job performances, and ability to better themselves in their job and in the marketplace. Only 10% of the participants sustained that humanities (geography, history, civics) were important for their personal lives. In interviews, 25% of all participants maintained that learning would help their community in some way, which meant that they saw their knowledge as somehow being collective.

Los Ríos Pilot Program

The Project agreed to "give conferences and practical demonstrations about non-formal education to the five pilot project centers mentioned in the MOE agreement.[6] In addition, the staff agreed to collaborate in training personnel, introduce techniques and

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6. "Mid-term Report," U. of Massachusetts, op. cit., pp. 8-10.

methods for certain adult centers, and pay five pilot group leaders for five rural community centers. Although the Project provided technical instruction to 40 literacy teachers in Los Ríos Province, distributing materials and instructing teachers in the new methodology, they gave special attention to those five selected centers.

Organization and structure of adult education for the five pilot centers were essentially the same as those in the rest of the Province. In making comparisons, it is important to remember that the only inputs were games, ten hours of instruction at a "cursillo" held July 10-14, 1972, and follow-up. Instruction given was in use of games and the dialogue method. No other changes in structure and organization of those five pilot centers was apparent.

The five pilot project centers were "classical" rural adult centers, combining literacy instruction with other functional skill teaching. Students were more homogeneous than in the control group, and male-female relationships followed the Province pattern. Drop-out rates of 65.8% followed the Province pattern. Table C below lists some pertinent facts about the five pilot centers.

Pilot program students differed little from those in traditional adult education programs. Because site selection took place without participant grouping concern, there were no essential differences. Participants, for the most part, were unaware that they were in a pilot program, so that little outside influence in the composition of the student body existed. Importantly for this study, teachers paid full time were not able to recruit more students from the community than existed in traditional programs.

Male participants were agricultural workers cultivating small plots of lands near the community. They were indigenous to that area and normally worked in the same areas. Some went to other areas during harvest as day laborers on small haciendas

TABLE C: LOS RIOS PILOT PROJECT ADULT EDUCATION DATA SHEET

CENTER:	Los Ríos	Isla de Bejucal	Santa Isabel	Legua de los Indios	El Porvenir	Average
Country	Babahoyo	Baba	Baba	Baba	Baba	---
Parrish	Caracol	Isla de Bejucal	Baba	Baba	Baba	---
Teachers	Piedad Verruz	Miguel Segovia	Amada Alvarado	Carlos Gaibor	Cristóbal Garcés	--- ---
#Students Registered	57	30	88	50	58	56.6
Regular Attend.	27	21	32	18	19	23.4
#Students Graduated	32	15	20	18	12	19.4
Drop-out rate	43.9%	50%	77.3%	74.0%	79.3%	65.8%
Class schedule	4-6PM	6-8PM	6-8PM	6-8PM	6-8PM	---
Men	24	17	25	10	11	17.4
Women	3	4	7	8	7	5.8
First cycle	19	18	15	8	9	13.8
Second cycle	10	3	10	7	6	7.2
Third cycle	7	0	7	3	4	4.2
# Students Interviewed	2	3	2	3	3	2.6
%total students Interwd.	6.2%	20%	10%	16.6%	25%	13.4%
Game liked most	Mercado	Mercado	Mercado	Mercado	Mercado	---
Game liked least	Dice	Dice	Dice	Dice	Dice	---
# Games used	6	6	5	5	6	5.6

or larger plots of land. Women students were housewives usually engaged in piecemeal work such as sewing, small crafts, and other small occupations. Most were poor by every measurement, and eked out a small existence.

The MOE Adult Education program in Los Ríos reported the following attendance records for four of the five pilot project centers. The fifth center, Isla de Bejucal, started late, functioned for only two months, and data were not available.

Center	Registered			Actual Attdn.			Graduated		
	M	W	T	M	W	T	M	W	T
Sta. Isabel	66	22	88	22	10	32	13	7	20
Los Ríos	50	17	67	31	8	39	20	5	25
Legua de los Indios	50	-	50	18	-	18	18	-	18
El Porvenir	47	11	58	17	2	19	10	2	12

Source: "Informe anual de labores desarrolladas por el supervisor provincial de educación de adultos de Los Ríos, en el período lectivo de 1972-73," p. 6

The drop-out rate for the five centers was 65.8%. Only 34.2% remained to graduate at the end of the school year. (These figures might be inflated, in which case results would be even worse. On the other hand, teachers may have been more honest than most teachers in the Province, since they were paid full time, in which case results would be better.) At this rate, it does not appear that games, nor additional salaries, nor additional trips by staff members, help reduce drop-out rates at all. On the contrary, statistics show that drop-out rates parallel those of regular adult centers, since regular adult education programs showed a 49.5% drop-out rate.

No major outreach differences between pilot project and regular adult education programs exist. Since the methodology is basically the same, this insignificant difference was not surprising. Games are an input that help class members learn some mathematics with practice, and to "put into practice what we learn." Approximately 80% of participants felt there was significant improvement with the use of games for practical living. The expectation was that with additional salary for teachers, who were working full time, there would be more impact within the community, but this was not the case.

Learning effectiveness appears to be definitely heightened with the games. Students claim that games are practical, well thought out, and have relevance for their daily lives. The game mercado is favored by all participants. They feel it is "practical," "helps to use mathematics knowledge in a very practical way," and is a "stimulus to learn more about how to handle money." Many interviewed commented on the realization of how products were sold and bought as a result of the game. Now, they stated, "we know how to figure out the cost of different products, which we didn't know before."

The games introduced into the pilot project were el mercado, bingo, el chulo, roulette, number dice, letter dice, letter rummy, and bim bol.[7] These games are positive for helping to learn new words and for reasoning. Some participants claim new skills in reading and writing based on the games, while others state that games are stimulating them to think in ways they had not thought of before. The key word used frequently in all interviews was that games were "practical."

Learning processes in the pilot program remain essentially the same as in traditional adult education programs. The "cursillo" had little effect on changing teaching methods for these pilot teachers. They are not teaching in any different way than tra-

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7. "Informe anual de labores desarrolladas ....", op.cit., p.5.

ditional teachers. Games were used an average of twice weekly, and were generally played after the class is finished. They are used after teaching took place and not as an integral part of the lesson. There is no problem with this approach since most games were played after students were tired, or at the end of class.

No explicit development goals exist, although many implicit learning goals were evident. Participants have definite ideas about learning to read and write and better themselves with functional skills. Pilot project teachers were more aware of teaching methodology than traditional adult education teachers. They were alive and had interest in their teaching job. Since it was a full time job for all five pilot teachers, they took more interest in developing lesson plans.

It is important here to make a few comments about the full time teacher. During the day they maintained non-structured activities which did not require their presence if they chose not to become active. All were engaged in some activities with local schools, local community activities, sewing classes, and minor activities they created. In many ways they lived like rural Peace Corps Volunteers with only one definite assignment, but who attempted to become active during the day. None of the five teachers structured his time during the day, nor obligated definite periods of time for activities. Participants noted that teachers did very little during the day, and teachers themselves admitted to having few activities that occupied their days. It does not appear pragmatic to pay these teachers full time salaries for these minimal, indefinite activities during the day. The recommendation made here is that full time salaries are not warranted to improve the educational process based on expenditures made.

No differences existed between the pilot programs and traditional education concerning certification. Since students were not aware of any implicit changes in the adult education system,

and games would not shift attitude changes regarding certification, no differences were noted. Students attended adult education sessions to learn first, and get certificates secondly. The need for certification, and its perceived rewards was heightened as students entered the third cycle. Since drop-out rates were high for first and second cycle students, there was little perception by students of receiving a certificate. As students entered the third cycle, the certificate loomed ahead as an important factor in the learning process.

Radical changes are not taking place as a result of the games. Although games may not be a major influence for change, some attitude and behavior changes are occuring. One community began a cooperative in Babahoyo as a result of community action, while another is planning to form a cooperative for agricultural products in their community. The games may have had an indirect influence on these outreach activities. In general, we conclude that games by themselves will not bring about strong attitude and behavioral changes, but that these changes must occur with "conscientization" learning and interventions of the new methodology. In the same vein, teachers are more likely to implement new methodologies only with more training and competence in the new methodologies. The key factor here appears to be reinforced training over a period of time.

Games were utilized only minimally on the Coast outside the classroom. Teachers introduced games in community meetings, in local homes, or at small gatherings. The president of one community, although insisting vehemently that he was not a student, stated that he had played all of the games. He thought games were valuable for bringing the community together and for helping solve many community problems. While probably overstated, this does demonstrate the spread effect taking place. In general, it appears that a strong correlation is made between a whole "package" of training needed for bringing games and methodologies to the community and implementation of those methodologies. When teachers are not trained sufficiently in the games and methodology, there is less tendency to begin outreach activities in the community.

In summary, games were considered to be important interventions in the pilot adult education program. Results were positive with games and were used effectively in classrooms. Spread effects for use of games is notable, including reproduction of games by the MOE Provincial Supervisor for Adult Education. Notable success of games is noted when combined with classroom activities, as use for follow-up and reinforcement of lessons, and as a diversionary activity at the end of class sessions. Games are used outside the classroom in the community, adding to this spread effect. If games can continue to be reproduced locally, and if excitement for games continues, then the intervention should be considered successful.

Comparative Analysis and Recommendations

At this point some comparisons can be made, generalizations stated, and some recommendations presented.

As was explained above, costs for maintaining additionally paid teachers and maintaining constant follow-up by the Project staff, make adult education costs per student very high.[8] There is little notable difference in performance to warrant this additional expense. Drop-out rates are parallel, if not worse, with the pilot project classes compared with traditional adult education classes, so that additional payment to teachers did not cut down on initial investment needed to begin such a course of action. The only notable benefit is that some students appear to be "turned on" to games, and games are being used in the communities.

A tentative conclusion in this study, and with it a recommendation, is that pilot teachers are overpaid for services rendered. Since most only teach two hours a day in a structured situation, and have no other obligations, the salary is high indeed. The recommendation made here is that teachers not receive additional salaries to carry on the same activities they now perform. Materials could be introduced into the same communities and receive basically the same reception from traditional adult education teachers. The

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8. A further cost-benefit analysis of this program is given in Chapter 7.

additional salary is not necessary to assure that materials are being used properly. In fact, there is no difference between teachers receiving the additional salaries and teachers not receiving additional salaries. Their performances in the classroom, and out, are similar. In fact, in one case a dynamic teacher was interviewed in the control group who has superior qualities than all the pilot project teachers.

Summarizing functional comparisons of the pilot project and the traditional adult education program, we found little difference of noteworthy mention. In some cases in fact, traditional classes appear to be more dynamic than pilot program classes. This is due to individual differences in the teachers. The quality of some pilot project teachers is not impressive. They are average adult education teachers right out of high school and with little experience. Would it not have been better to select experienced teachers with some adult education teaching experience, or reward experienced (and good) teachers, rather than select inexperienced young teachers with no experience? (In four out of five cases, pilot teachers were Sierra teachers who took jobs for the first time on the Coast.)

As was delineated above, learning acquired under both systems is essentially the same. It is wrong to assume that one system is formal and the pilot project informal. Both emanate from the same roots, have the same structural and functional patterns, and purport to teach the same materials. The kinds and type of learning is that found in all adult education programs throughout the Republic. (It is important to remember that adult centers do not specialize only in literacy, but also emphasize geography, history, civics, mathematics, geometry, general culture, and other subjects. In many cases, most participants do not come to centers for literacy training, but rather to pick up functional skills. In one center electricity, plumbing, carpentry, engineering, animal husbandry, and agricultural technology are only taught. In another center they emphasize nutrition, hygiene, domestic economics, and sewing.)

There is no correlation that can be made positively between the use of games for lessening drop-out rates. In fact, the data show that drop-out rates were higher in the pilot project than in traditional adult education programs. Pilot project classes do not average more students than the traditional program, and students do not remain in class any longer. No positive judgment can be made for enhancing student participation based on either the use of games nor the paying of additional salaries to teachers.

One way to increase impact of educational games in Los Ríos Province and elsewhere, is to augment training of adult education teachers. Games can be diffused in different schools in the area with little additional cost. Instead of investing capital for additional salaries, which does not appear to render good benefits, the same capital could be invested in training more teachers in the use of materials. Small "cursillos" could be planned and conducted on weekends, or at the beginning of the school year, instructing in the use of games, the dialogue method, and reinforce with subsequent follow-up meetings. Teachers would not receive additional salaries, but would have access to games and the literacy method. In this way, perhaps 40 of the 66 teachers might use games and methodology in their classrooms. This model will also effectively place the Project as the resource center in the eyes of the MOE and the teachers, rather than as benefactors of additional salaries.

Chapter Six

Mass Dissemination of Non-Formal Techniques

In this section we explore possible dissemination techniques for diffusing non-formal techniques in Ecuador. We look at present MOE channels as vehicles for reaching mass audiences, search for alternative delivery systems, and make recommendations for possibilities of the future. This is not an evaluation of the Project itself, in any real sense, but rather an attempt to explore ways to diffuse Project ideas throughout Ecuador. AID officials were interested in "letting the mind run loose" to come up with innovative ways for disseminating ideas.

Research can be helpful in setting up types of dissemination best suited for a mass media/interpersonal communication mix which appears vital to the success of any program. Everett Rogers has done exhaustive research on this subject[1], and we will cite some conclusions he reached for diffusing innovation in less developed countries. Mass media and interpersonal communication channels play complementary roles in diffusing innovation, rather than competing roles, and thus can be combined to yield maximum results. Research shows that different uses of mass media and interpersonal communication have varying degrees of influence on audiences depending on the source of information and how it is presented. Mass media channels are good for reaching large audiences rapidly, creating and spreading knowledge and information, and leading to changes of weakly held attitudes. Formation and change of strongly held attitudes is best accomplished by interpersonal channels. Mass media channels are more important at the knowledge function, while interpersonal channels are more important at the persuasion

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1. Everett Rogers, Communication of Innovation, op.cit., pp. 250-266.

function. Sequential message introduction indicates that mass media communication is more profitable at the beginning stages, followed by interpersonal communication. The overall conclusion from this research is that a combination of both channels is important, although the mass media communication could profitably come first.

This research has some overall implications for Project implementation and other diffusion of non-formal techniques. The Project might consider using radio more in their initial programs to increase receptivity of their programs before initiating interpersonal communication. Audiences can be readied for interpersonal communication of innovation by presenting programs of innovation in the mass media channel.

Wilbur Schramm has stated that a key use of mass communication should be that of using communication as a teacher multiplier.[2] Since teachers are scarce in the rural sector, attempts should be made to substitute teacher needs by using mass communication. The rural sector cannot wait for trained teachers to be assigned by the MOE into small villages, rather it must invent innovative ways to bring "substitute teachers" into villages. The facilitator model is one way and the Tabacundo model is another vehicle. Ecuador might save years in the process of economic development by giving a device by which to teach themselves skills and information they most need. This could be programmed self-instruction materials, a village level radio station, educational films that meet villagers at their levels and needs, or village level newspapers. Ecuador does not need to invent the wheel all over again since there are good models to follow in other countries, and models inside the country can be expanded.

Radio and television have the power to reduce distances of communities and to reach remote areas that are inaccessible and isolated from the mainstream of society. Television has

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2. Wilbur Schramm, "Communication Development and the Development Process," in Communications and Political Development, 1963, edited by Lucien Pye, pp. 30-57.

the capacity of multiplying classrooms and increasing teacher potentials. Since Ecuador is lacking desperately in qualified teachers, radio and television can speed up the learning time factor. A recent UNESCO report emphasized this factor advantage by listing the major advantages of using this technology:

> "ecclecticism- the best teachers and teaching methods can be exploited on a wide scale and influence teaching methods; the use of television more explicitly for helping "in-service" training of teachers and instructors, and guiding them and keeping in touch with new methods, especially audio-visual techniques which can so effectively be demonstrated by television; the universality of broadcasting; its repeated day-after-day action; the simplicity of operation -in the case of radio- at the receiving end; and the attractiveness for ordinary people not only of television, discussed above, but also radio in the 'age of the transistor'."[3]

Other research is relevant for discussing the importance of mass media communication to increase development and spread innovation.[4] But let us here describe the communication system in Ecuador so that we can understand how best to analyze possible alternatives for diffusing the non-formal approach and methodology in Ecuador. The communication system in Ecuador flows along lines of a social hierarchy with definite status relationships between the communicator and the recipient. Structurally, the system is bifurcated and fragmented, since the message center is based on modern technology, is urban-centered, and is primarily interested in reaching the Westernized segments of the population. Only in erratic form and content does the urban-based communication system penetrate into the village-based systems. Differences in the social and economic situation of transmitters makes for erratic

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3. "Radio and Television in Literacy," No. 62, UNESCO, 1971, p. 16.

4. See also, Wilbur Schramm, Mass Media and National Development, 1964; David Berlo, The Process of Communication, 1960; Melvin DeFleur, Theories of Mass Communication, 1966; Wilbur Schramm The Science of Human Communication, 1963.

and irrelevant messages to meet the community sub-system. Villages in Ecuador tend to have less communication with each other than they have separately with the urban centers. This pattern is somewhat like the spokes of a wheel that connect to the hub, but without the outer rims having direct connections with the other spokes.

Any intervention into the communication system must come to terms with this fragmented communication system and should attempt to reach into the separate communal dimensions of the nation, while at the same time the informal systems must develop the capacity to interact with the mass media system, benefitting from a greater flow of communication but also maintaining a sense of community within the communities. Instead of intervening into the modernized, urbanized, mass media system, it is probably more profitable to adjust the informal, rural systems to each other and to the mass media system. Excessive intervention in the modern sector may create a more imbalance and exaggerate the bifurcated nature of the communication system as a whole.

A community-based communication system must help teach literacy so that individuals can broadly and efficiently participate in the affairs of the nation. It can help teach technical specialities of all sorts so that technology can go forward. It can help teach the skills needed for agricultural production in the rural sector, as well as other areas desperately needed such as nutrition, health hygiene, market practices, and other skills needed for rural individuals. Although basic skills in literacy are a priority of mass communication, so versatile are the audio-visual media that they can leap over the barrier of illiteracy, and even before adults know how to read, can teach some of the technical knowledge and political awareness that are needed. Small radios introduced into communities can open doors to thousands of rural sectors before literacy programs reach those homes. It is not necessary to wait for the extension of literacy before elementary technical skills are shared with non-literates.

Television

Most television stations in Ecuador have very localized coverage and do not cover the entire population. Television stations cover only pockets within the country, so that any attempt to use all stations would not work. The major exception is channel 10, operating out of Guayaquil, which has facilities for reaching into all major provinces, and with capacity to cover over 60% of the country. It seems probable that Channel 10 would be most likely to intervene in any educational literacy program.

What kind of programs would work on television? The Fondo de Capacitación in Colombia, a special organization directly under the presidency, produces literacy programs for adult literacy to be shown on television. These are directed toward the "marginals" of that society. It would not be difficult to incorporate those same programs into the television network system in Ecuador. This nine-month literacy course comprises 150 hourly programs that could be used in individual homes, "telecenters," community centers, and schools. If it were to be run at night it could follow much the same model as was devised by the Tabacundo Radio School program.

"Telecenters" are local community centers located in a small town, where one television is located for viewing mass produced programs. Auxiliaries help the class by watching the program with students and giving follow-up support to programs introduced on the screen. In this way, participants get a "substitute" teacher packaged to them in a highly visual medium, while teachers at the centers provide the combination of interpersonal communication. It would be feasible to strategically locate 50-100 television sets in areas in and around cities where television reception is available. This would capture rural migrants, urban illiterates, and many semiliterates surrounding large cities. Additionally, since television reception reaches 60% of Ecuador territory, and perhaps 70-80% of the population, sets could be located in areas up to 30-40 kilometers into the interior of provinces.

A new Sesame Street type program in Spanish began on February 19, 1973, in Guayaquil and Quito, and by using their chain network to several provincial capitals. It is called "Plaza Sesamo" in Spanish, and is presented on television primarily for young and urban audiences. Like "Sesame Street" in the United States, its aim is to instruct pre-school children in basic functional skills before entering kindergarten or primary school. Although many themes are not relevant to adults, nor rural school children, it could serve as a prototype for illiterate adult programs. Granted, at this point in time, television is not emerging as the medium for reaching untold masses in the rural sector. Lacking electricity in most small towns in rural Ecuador, television would not be feasible. It could be feasible if transistor televisions were made available to rural areas, and if they were tied-in to the national network, but the feasibility of making such a plan feasible, and a cost-benefit study of such a project, is beyond the scope of this study.

There are enough illiterates and semiliterates living in urban areas, however, to warrant further investigation for using television for bringing messages to illiterates via television. With the increased migration of illiterates to urban areas, the possibility of using television in communal centers should not be overlooked. At present, literacy classes could use "Plaza Sesamo" to form the core for "telecenter" classes. It would be viewed first by all participants for the hour duration of the program. Afterwards, instructors would conduct a literacy class in conjuction with the program, reinforcing many program concepts. This program could be combined with educational materials provided by the U. of Massachusetts staff, conscientization activities, and a series of U. of Massachusetts methodologies.

Television is an appealing vehicle for literacy training because it combines sight and sound together, and it is new and appealing. It may be necessary for Ecuador to produce its own literacy program, in which case a good cost-benefit study would be necessary, studio facilities would have to be made available, and public service time provided by the television stations. Most

literacy programs on television work successfully with easy-reading materials for use following the class itself. Without them, students quickly forget the skills they learned. If these materials are well planned, they can be coordinated to the program and enhance learning considerably by providing multi-media sources of learning. While difficulties loom strong prohibiting television media for literacy learning, the positive factors are there for consideration.

Radio

In this "age of transistor" radios are available in most rural areas of the Third World, and in Ecuador. They are revolutionary technological devices for bringing outside messages, information, and stimulation for millions of rural people in Ecuador. Radio can bring news to people unable to read newspapers. It can give instructions, advice, and help with farming, health improvement, and community development. It can bring supplementary teaching to schools. It can bring extension teaching where schools are unavailable. Radio is important in the early years of national development for unifying the country, helping to bring masses within the national framework, and can bring information needed by people in developing villages who still do not have printed media available.

Research has found that radios alone are not the most productive use of this media for teaching literacy. A more wide spread use of radio will not necessarily bring about social change desired by sponsoring agencies. Schramm[5] points out that merely multiplying messages and channels on the radio will not be sufficient to bring about social changes. He notes that by simply adding a radio program does not help farmers to adapt new agricultural practices, but that the radio program in combination with question and answer sessions, or a group discussion in rural forums, did help bring about more innovative agricul-

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5. Wilbur Schramm, Mass Media and National Development, op.cit., p.114.

tural practices. Likewise, literacy taught by radio alone, without any combination with classes was found to be unprofitable, but when combined with schools it was more useful.

It appears from these findings that radio can best be utilized in literacy in combination with other audio-visual materials and instruction. One possibility for increasing both the written message and the radio literacy message is to have one support the other. A photo-novel could be matched with a radio-novel so that one is supportive of the other. The same type of program played on the radio could be reinforced in written form with a photo-novel. Another program not used in Ecuador, but with outstanding results in other countries, is programmed self-instruction materials connected with the radio program. Materials of literacy or skill enhancement exercises are planned to match radio programs so that students can either learn in their homes or in radio centers.

There are six major radio station chain networks in Ecuador that would be viable for transmitting messages to wide audiences. Perhaps the best possibility would be to utilize several of these networks , since some specialize on the Coast and others on the Sierra.

* HCJB has the largest network system, covering the entire country with its huge internal transmitter, and having nearly 25 radio stations tied into the network chain. It has the advantage of being willing to transmit educational messages more readily than other stations.

* Radio Bolívar, in Guayaquil, has good coverage on the Coast with network tie-ins with ten radio stations.

* Radio Mambo, on the Coast, is owned by El Universo, and has 26 stations in its network chain.

* Gran Colombia (Radio Cadena Nacional), operates out of Quito, and has 22 stations in its network system.

* Radio Espejo operates out of Quito and has 30 stations tied into its network system.

* Radio Quito operates out of Quito and has 30 radio stations in its network system.

Approximately 252 radio stations operate in Ecuador located throughout the country. Sixty per cent of these stations have network tie-ins with the six network chains. Most only use the national networks for news, newsworthy events, and sports, with the remaining schedule devoted to local production. A most important factor for acceptance of any literacy program, according to most radio station managers interviewed, is for professional production of programs. They state that a professional studio would probably be needed to produce programs to maintain high quality. The most pragmatic way to run a literacy program on radio is to produce programs on tapes and deliver them to radio stations with network facilities. A pilot project could be established with one radio network system that has good stations in the rural sector.

The Tabacundo program could serve as a prototype that could be expanded to meet national requirements. Radio stations could be asked to donate a period of their time each day for educational programs, and government officials could make agreements with radio stations so that popular and educational programs become available for presentation. One goal could be to tie-in MOE Adult Education programs via radio. Classes meeting at night could first listen to a radio program and then conduct classes afterwards with local teachers. This serves the dual purpose of providing professional teachers entrance into literacy classes, and helps literacy classes form a communication network.

Another possibility is to expand the Tabacundo Radio Program facilities so that their frequency is larger to reach a larger audience. This can be accomplished simply by expanding their transmitter system and getting a license to transmit to a larger area. Since basic facilities are already there, this would only require increased funding.

Print Media

The small native language rural newspaper is one of the great movers of national development. It serves the literate, new literates, and gives them reason to learn to read better. It also furnishes much of the public affairs information that is needed at the very low level. Research has found that newspapers are helpful for early adopters of social change and for cosmopolitan rural sector inhabitants.

Most print media now available exist primarily for the urban sector and is irrelevant for rural populations. Few rural newspapers exist in the Third World, largely because of the lack of circulation possibilities and the high cost of producing a rural newspaper. Although it might only cost a few thousand dollars to begin a rural newspaper, low circulations make for financial difficulties. Advertisements are minimal in the rural sector and small newspapers generally have to charge higher advertising rates in order to survive. This makes their advertising still less attractive to purchasers. Over the long haul, rural newspapers have had to rely on subsidized budgets from government or private sources. In a country like Ecuador, with a high percentage of illiterates in the rural sector, the future possibilities are dismal.

It does not appear feasible to assist new literates in Ecuador with present urban oriented newspapers either. Newspapers in Ecuador are not applicable to help new literates in enhancing literate skills. Research has found that new literates require larger type than is found in all newspapers in Ecuador, need a controlled vocabulary that is within their learning ability, and need material that is relevant to rural sector and personal needs. It is true that some reading material is needed to stimulate new literates to read and write. What is the solution?

One possibility already in operation in Liberia,[6] Ghana, and other countries, is the rural mimeo newspaper for new literates. These

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6. See "Rural Mimeo Newspapers," by Robert de T. Lawrence, in Development Digest, Vol. VIII No. 4, Oct. 1970, pp. 27-32.

are newspapers with only one page that can be hung on walls, in homes, at community centers, and can be made available in classrooms. They are newspapers created and written by new literates themselves and contain articles and items of interest to the rural sector. These newspapers are relatively inexpensive to produce and do not require a major production process to turn out 3-4,000 papers on a weekly basis. This might be a worthwhile project for the U. of Massachusetts since it fits conveniently within their philosophy of letting people decide what they want to read. (At this writing, the MOE Adult Education has a similar type rural newspaper for their adult literacy classes, called ADELANTE. This newspaper is produced in Quito for rural people, and not by rural people. It is blatantly paternalistic, national oriented, irrelevant to most rural interests and needs, and does not meed the needs described in this proposed rural newspaper. (It does have an excellent format, with large type, readable letters, and controlled vocabulary that could be emulated). Any venture in this area should examine previous experiments in rural newspaper, including an experiment made by USIS/Quito in 1967, before attempting to begin a new project.

The Project developed a "photo-novel" whose purpose reflected actual situations in Ecuador and gave new literates some reading materials. It retains the same format as regular comic books, but uses actual photos instead of animated cartoons. Designed by the Project to reinforce skills learned in sessions and complement ideas of conscientization, it depicts the rural sector individual as a person with dignity, capable of taking on problems by himself and solving those problems. It was also an attempt to circulate widely a different type of "comic book" to mass audiences. At this writing they have marketed their first copy on the commercial market. Reports show that it is having qualified success. It would be possible to combine this "photo-novel" in a coordinated effort with "radio-novels" to increase reinforcement of lessons, concepts, and rural ideas.

Other types of printed media are needed to reinforce lessons of the non-formal approach, give new literates reading materials, and provide information to complement functional skills learned.

The reader produced by the Tabacundo Radio School, entitled Cultivemos Hortalizas (Let's Cultivate Vegetables), is excellent in content and form for new literates. It combines literacy skill learning with relevant agriculture information needed by rural campesinos. Some parts of the MOE "cartilla," although not all, are relevant for beginning readers and parts could be reproduced in another form. Readers produced by the MOE like Quién Soy Yo? (Who Am I?), Una Familia Feliz (A Happy Family), and Lecturas Favoritas (Favorite Stories), are relevant in most part for beginning adult readers.

Diffusion of Non-Formal Techniques through Delivery Systems

We now look at the diffusion of non-formal materials through various delivery systems. The Project's model for diffusing educational materials is to experiment with dissemination on the widest possible range of institutions and individuals. They have called this the "cafeteria approach." Committed to promoting a "multi-faceted distribution network for the non-formal educational materials,"[7] they engage organizations interested in materials to disseminate them personally through their own institutions or elsewhere. Only institutions interested receive materials, or buy materials, and those not interested do not participate.

It is their opinion that few existing organizations (with the possible exception of the church and military) have structural capacities to distribute materials nation-wide. Most government institutions, they feel, only have capacities to distribute materials to accessible areas, or areas within range of regional offices. Thus, the more organic approach for distributing to interested institutions appeals to them. Their goal is to provide a multiplier effect by using many institutions, including government institutions, which will complement each other and serve the entire Ecuadorean population. They would engage both government and private institutions, and not rely solely on one source.

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7. "Technical Note #1, The Ecuador Project," op.cit., p.14.

Project managers feel that their role in the delivery system is the "development of the non-school and non-government aspects of this network" which will be a combination of non-institutional mechanisms, private agencies, cooperatives, and government directed programs."[8] They estimate that a non-central direction, or a single coordinating agency, is desirable at this point in the Project. Their alternative is what they call a "community-based demand system," whereby communities receive resources needed and communities interact with multi-faced agencies serving as diffusors.

The MOE can be utilized as a delivery system effectively since they have personnel resources in most regions of the country. The Project staff might seriously consider developing a programmed alternative learning system which could be utilized by the MOE, and other institutions. It would be a "package program" consisting of games, the photo-novel, the dialogue methodology, and a limited syllabus for using these educational materials and methodology. Some teaching devices could be explained, lesson plans could become operative, and instructions for teachers and facilitators wishing to use materials. In this way, they perform the service as a resource center for providing a "package" of materials, in useable form, for introducing their games to unknown audiences. The MOE would probably be acceptable to receiving this product which could be used in formal classrooms. Other institutions or individuals, wishing to become involved in adult literacy programs, would have professional materials available for their use.

The Project staff can also expand its role for introducing new techniques into the MOE, and the MOE can serve as a delivery system for those new techniques. This would probably take the form of seminars and training sessions for adult education teachers in "cursillos:" They should attempt to get at least 20 hours of instruction into those sessions, instead of the ten hours training with the Los Ríos Project. Additionally, they should attempt to increase in-service training sessions for adult education teachers during the entire school year. Since they have a mandate to work

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8. IBID, p. 17.

closer with the MOE this year, their goal should be to sign an overall "agreement" that will give them opportunities to introduce their materials and philosophies into the formal system.

Chapter Seven

Cost-Benefit Analysis

This section gives a limited cost-benefit analysis of the Project in Ecuador. It is not an exhaustive study of the subject, which is beyond scope and time limits of the study, but gives rather some indications of trends and patterns in this area. Cost-benefit analysis usually views returns on investment for economic growth and income earnings. Education cost-benefit analysis usually examines potential contribution of education to future economic growth and individual income enhancement by individuals who participate in the educational process. Education, in this sense, is viewed as a social or private investment; a social investment by the government or private agencies and a private investment by the individual. Studies in the subject attempt to analyze investment in human capital, current earnings foregone to increase future earnings, and marginal increases in production from a particular additional investment. The present analysis is a minor effort to analyze the non-formal program in the same context.

A general description of cost-benefit theory in education is given which sets forth some of the key variables that should be looked at in the analysis. An overall assessment will then be given of the Project, with more detailed analysis of two programs given separately. It is doubted that a detailed analysis could be made of the total Project, given the lack of data. Also, little comparisons will be made with the MOE Adult Education program since data are sorely lacking, and any assumptions made would probably be closer to fiction than fact.

Cost-benefit analysis is a systematic comparison of the costs and benefits of some kind of investment, in attempts to assess its economic profitability. It assumes that investments involve some kind of sacrifice of present consumption in order to receive future benefits of higher outputs or income. This cost-benefit analysis (or rate-of-return analysis as it applies to education) gives a way of analyzing future benefits based on present

costs. This analysis should provide a measure of expected yields of the investment. Naturally, since cost-benefit analysis is an economists' tool, the framework analysis lies keavily on the economic benefits on ivestment for education. The concept in its present form does not help measure intangible non-economic benefits such as social, political, and cultural consequences of education. But it does help to call attention to significant variables that must be considered by educational planners, namely the relative costs of different types of education and relative earnings of different categories of manpower.

The obvious cost to define in cost-benefit analysis is the "opportunity cost" of the Project, that is, the real resources that are used by the Project. These are important to evaluate since they represent investment in one activity that could be used for alternative activities. For example, in our case, resources must be evaluated as to their importance for the development of Ecuador as opposed to different investments that could be made in other fields of education. Another opportunity cost to be analyzed is the time of students themselves, who theoretically are being deprived from the labor market of their services by choosing to further their education. There is a current loss of productive capacity, a loss of current output for the economy, and a loss in earnings by the participant. Thus, a total systems analysis must consider not only money expenditures by the Project, but also estimates of total costs for investment in non-formal education in terms of alternative opportunities lost by society and the individual.

Rates of return on investment made provide measures of the relative profitability of the investment in comparison with alternative forms of investment. The analysis of rate of return should include the relative profitability of investment as a social investment, the relative profitability of non-formal education as opposed to formal education, social returns of the investment, profitability of education to society and the individual, and social returns on investment over a period of time. This rate of return analysis for the Project will not be complete since all data are not available and time does not permit a complete run through of all items.

Benefits arrived from the incurring costs are usually measured as the expected contribution to future levels of income or output on the part of the participant. This is usually measured as the result of imparted skills and knowledge to educated manpower, which in turn improves the productivity of labor. If the productivity of the educated student is higher than uneducated workers, this is reflected in output and higher earnings. Although this type of analysis is purely economical, the same concept can be applied to non-formal education in Ecuador. The difference is that measurements of benefits must also take into account non-economic benefits as well. In fact, an argument can be made that the non-economic factors in the Project will override the economic benefits in this analysis. Our task is to outline benefits derived from the non-formal education received, both economic and non-economic.

Overall Cost of Project

One major difficulty in assessing overall costs for the Project is that activities are diversified. There are at least five major categories of activities:

1. Los Ríos Project
2. Facilitator Program
3. SEV Program
4. Tabacundo Radio School Program
5. Miscellaneous Activities

In each of these activities, the U. of Massachusetts receives financial support from AID/Ecuador for special projects or for equipment to support special projects. For example, the AID Mission provided the 38 tape recorders for the Tabacundo Radio School Program beyond the contract agreement with the U. of Massachusetts. The fine line where the Project contract support ends and AID financial support begins is difficult to assess. Continuous ad hoc decisions are made by the AID Mission to support various programs advocated by the U. of Massachusetts staff members.

It is estimated by the Project staff that their time and resources are divided by percentages into different categories. These estimates are used as a basis for analysis. It is noted that 25% of time is spent on administrative matters with AID/Ecuador and Washington, and internal U. of Massachusetts administrative issues. These are not direct program costs and are used in tabulating the cost-benefit ratios.

Costs of Project Programs

Program	% Time and Resources	Dollars
Los Ríos	18.7%	$21,194.00
Facilitator Program	30.0%	33,947.00
Cashisagua	3.75%	4,321.00
S.E.V.	7.5%	7,553.00
Tabacundo Radio School	10.75%	12,221.00
Miscellaneous	3.75%	4,311.00
Overhead *	25.0%	28,304.00

* Represents costs for administrative functions to AID and U. of Massachusetts headquarters.

In another cross section cut, time and resources are broken down according to functional activities. The three categories are development, training, and follow-up. Development consists of all activities that were devoted to development of materials, development of philosophy, or related activities. Training consists of actual "show and tell" sessions, facilitator training courses, on-the-job training meetings, and related activities. And follow-up activities consist of reviewing activities, further visits to sites, additional meetings, and other related activities. The breakdown according to project, in percentages, follows.

Functional Activity Costs
(in percentages)

Project	Development	Training	Follow-up
Los Ríos Project	20%	20%	60%
Facilitator Program	30%	20%	50%
Cashisagua	5%	80%	15%
S.E.V.	10%	80%	10%
Tabacundo Radio Program	40%	20%	40%
Miscellaneous	5%	90%	5%

Source: Project staff estimates

These budget costs come from an overall annual budget of $112,862, which was the contract agreement for 1972. A majority of the budget is allocated for salaries, allowances, travel, direct costs, and overhead. Since the contract called for new development of educational materials, it is fair to assume that a major portion of the budget would go for human resources. The Project staff, following this same pattern, estimated that 20% of time and budget has been allocated for material development while 80% has been allocated for implementation. This is realistic since new games and methodologies would probably not be implemented properly without their efficient introduction into communities. In future studies of cost-benefits, it should be remembered that implementation costs must be figured into total costs, since experimental programs must necessarily spend a great deal of time introducing materials.

One positive factor for opportunity costs is that adult education usually does not displace possible income revenues that could be earned by participants. Since education takes place at night, it can generally be assumed that current incomes are not foregone to make a current human capital investment for future possible earnings. Additional earnings foregone during this period of education would normally be minimal since alternative activities at night would not normally be income earning related. Alternative activities would have other social costs, such as investment in community development related activities, time spent with families, rest needed to work more productively, etc., but these would not be related necessarily to economic factors.

Another positive opportunity cost is the lack of alternative opportunity costs related to capital investment in buildings and land. Since non-formal education programs utilize existing school buildings and private homes for holding classes, instead of building new structures, there are no added capital investments. In addition, extra land is not redistributed, or displaced, from other functions to be used for education. This expense is an alternative opportunity cost for regular formal schools.

Overall direct opportunity costs are usually paid by the U. of Massachusetts. Teachers salaries were paid by CEMA, the MOE, and the University of Massachusetts. Direct opportunity costs of current expenditures on goods and services are practically nil for the participants in the program, while they are rather high for Project expenditures. Expenditures on books have all be given by the Project, or have been acquired by teachers with no incurring costs. Rent is paid only by the U. of Massachusetts for its Quito office. Private costs for students are minimal since books are either provided or are non-existent. As was stated before, it does not appear that present earnings are foregone to acquire additional educational benefits.

Overall Benefits

A strict interpretation of benefits would give the expected contribution to future levels of income or output made as a result of costs incurred. It would also include the additional lifetime earnings of educated workers made as opposed to earnings that would have been made had they been uneducated. Unfortunately, Ecuador does not have time series data on earnings of samples of educated and less educated workers for the rural area, nor does it have cross-section data to estimate average age-education-earnings for workers with different levels of education for the rural sector. An educated estimate would probably reveal that earnings would not be enhanced much by the non-formal education process, but that earnings in particular jobs would probably remain about the same.

It can be questioned whether this time of measurement is even valid regarding the non-formal education program. By looking at another approach, we may find some benefits from the education received. One benefit received is an attitude behavior change which forces participants to action. Action becomes an integral part of attitude change in that attitudes are not an index of action, but a determinant, component, and consequent of it. This concept of the integral nature of attitude change and action was recently developed by Herbert C. Kelman, a social psychologist at Harvard University.[1] He states that attitudes are "not an entity that can be separated-functionally or temporally- from the flow of action, but rather it is an integral part of action. Attitude and action are linked in a continuing reciprocal process, each generating the other in an endless chain. Action is the ground on which attitudes are formed, tested, modified, and abandoned."

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1. Herbert C. Kelman, "Attitudes are Alive and Well and Gainfully Employed in the Sphere of Action," address of the American Psychological Association, Washington, D.C., September 6, 1971. See Appendix D for model.

For rural non-formal education learners, a benefit received from their classes is an attitude embedded in an action situation. Attitudes formed in classes have particular functional significance for the participant -the goals he pursues, the values he hopes to maximize, and the coping process in which he is engaged. As he interacts with society, attitudes are tested, exposed to different information, and sometimes changed. Processes of attitude change is often heightened by certain actions that take place, which create conditions of reassessment and revision of related attitudes. Attitude change in relation to action is not only a reactive process, but is also an active process in which action plays a catalytic role.

In attempting to apply this concept as a benefit for the non-formal education program, we see some very favorable outcomes. As a result of non-formal classes, especially in the facilitator centers, attitude changes and actions are definitely taking place. Some 30 odd projects and community activities have been listed by CEMA as actions taken by facilitator center participants as a result of the classes. These include building a bridge, starting a cooperative, constructing a potable water system, building a school, and paving a small feeder road. Attitude changes are taking place by facilitators and participants which will lead to action and an ongoing process of change. Each product has a price tag which is a positive social benefit for the individual, the community, and the society as a whole.

In addition, imparting of skills and knowledge is positive. Illiterates are becoming literates, which in turn opens doors of perception for new information for agricultural innovation, better health and nutrition information, and a host of other community related activities. Each of these also has a price tag. It will take further study and investigation to determine exact and precise money figures on all of these activities.

An overall assessment, therefore, would give a positive cost-benefit reading to actions and attitude changes that have taken

place. This is more positive in the facilitator centers than in the Los Ríos Project. The Tabacundo Radio Program offers a different evaluation since the only intervention by the U. of Massachusetts staff has been tape recorders. Below are some detailed cost-benefit studies of the Los Ríos Project and the facilitator center programs.

Los Ríos Pilot Program

The MOE Adult Education Division estimates that it costs $9.60 to educate each adult per year. This is based on pure cost-benefit analysis, which indicates only finished products on investments. Using these global figures for our analysis, fully realizing that they may be inaccurate to a certain degree, we can calculate cost-benefits for additional inputs into the pilot program. An average of 19.4 students terminated their studies in the five pilot project centers. Additional salaries of $168.00 were paid to each teacher in the pilot program, averaging $8.66 more per pilot project student. Instead of costing $9.60 to educate an adult, in the pilot project it now costs $18.26. Additional costs incurred in educating these adults include U. of Massachusetts educational games, U. of Massachusetts personnel input, additional follow-up time exerted by the Provincial Supervisor although on a fixed salary, and hidden costs throughout the system. These total costs are outlined below.

Cost Study of Los Ríos Pilot Project
(per participant)

Average cost to educate an adult MOE	$ 9.60
Additional salary to teachers	8.66
U. of Massachusetts personnel estimates (total estimate spent $1,000.00 for all personnel including training time, follow-up, staff time, educating and estimated 94 finished students)	10.63
U. of Massachusetts Games (estimated $6.00 to produce and deliver games per center)	.31
	$29.20

Benefits are more difficult to quantify. Benefits are the qualitative and quantitative enhancements that come to the individuals, the community, and society as a whole. Perceived benefits are listed below.

Benefits of Los Ríos Pilot Project

1. Enhancement of mathematic skills due to use of games and interested teachers working full time.

2. Better community activities created by increased community awareness.

3. Individual awareness enhancement due to influence of games.

4. Increased ability to function in marketplace due to instruction received from playing games.

5. Enhanced functional skills in reading and writing due to games.

Our major question should be, do these increased costs warrant the perceived benefits to the participants, the community, and society? If not, what alternative system might be devised that would increase the benefits?

Facilitator Program

We estimated before that 30% of all time and resources were being spent on the facilitator program, and that 30% of this time was spent on development, 20% on training, and 50% on follow-up. The aggregate figure spent on facilitator programs is $33,947. This includes all incurring costs for the contract, including U. of Massachusetts/Amherst support, travel and transportation, overhead, and equipment, etc. The components of that figure broken down according to category are:

Development	$10,187.00
Training	6,791.00
Follow-up	17,168.00

Obviously, real sums are not being spent in these various activities. But calculating overall costs for the program as well as benefits, we must take these aggregate sums into account. (This is the nature of a pilot project and is also the problem that all contracting institutions face when calculating their aggregate output. In real terms, perhaps only 40-50% of this total is being spent on actual programs.)

We estimated that 320 students are taking the facilitator center programs, and an additional 25 facilitators teach them. Since both are really some kind of investment, the aggregate figure of 345 is used. Using the aggregate figure of $33,947 for the facilitator center, we find that it costs $98.39 investment for each participant. In real terms, the investment per student is probably $49.00. This initial cost, which also includes development of materials, can be expected to decrease considerably in forthcoming years. If the contract were terminated at the end of this calendar year, we would still expect facilitator centers to continue for several years hence on their own. It should be added that this cost figure runs parallel to most non-formal experimental programs worldwide. In Tanzania,[2] for example, a non-formal program was established in which it cost $100 to educate each new literate in the experimental stage. This figure will be reduced as the program develops.

The benefits of this program can be analyzed as follows:

1. Development of 30 games that will be used by the facilitator centers throughout their existence.

2. Involvement in attitude change and action change that have created some 30 odd community development projects, with expectance that with the new facilitator centers an additional 20-30 other community development projects will be started.

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2. James R. Sheffield, Non-Formal Education in African Development, African-American Institute, 1972, p.115

3. Enhancement of functional skills that will enable participants to receive new agricultural information, information about health and nutrition, and skills to help themselves.

Chapter Eight

Conclusions

Given scarce resources and time, Ecuador can ill-afford to invest in education that has the wrong order of priorities. Indiscriminate popular literacy programs that have little impact on development goals, or experimental programs that have limited minimal payoffs, are clearly not adviseable, given limited resources in Ecuador. The major question comes to this: Is the non-formal program of the U. of Massachusetts a non-formal education program built on the beliefs of a few innovative individuals, or is it a viable program that can have long lasting effects? Is it clearly a top priority goal of the Ecuadorean government? Should it be? After observing and evaluating this program for three months, some answers were made, but also other questions arose.

A whole "package" of concepts have been developed which are positive for rural Ecuadorean individuals outside the mainstream of the educational processes. Profound changes in attitude and behavior are impressive, emotional, and highly visible. The Project developed a model of operation which should be continued and emulated by other programs throughout the world. Its inter-subjective nature proposes a series of ethical and moral imperatives for pondering by development experts here and elsewhere. The combination of the Ashton-Warner/Paulo Freire literacy methods into a "dialogue method" is innovative, revolutionary, and an important contribution to the field of literacy worldwide.

The program is not without its problems. Project staff members must devise innovative delivery systems and become more systemic to move beyond the experimental stage and become a mature and dynamic organization with its new model. It must learn how to work within given structures of the host country, while at the same time maintaining its dignity, innovativeness, creativeness, and proper ethical character. Its challenge of

1973 is to maintain its dynamism while at the same time moving past the "crisis" point of becoming not an experimental program, but a dynamic resource center.

Overall Recommendations

The purpose of this final section is to give a listing of overall recommendations made throughout the report. Since we attempted to state recommendations in their proper chapter contexts so that sustantive arguments would accompany the recommendations, they may not stand out clear for some readers. Here, a succint listing of recommendations is given with reference to pages in the text where full treatment is accorded.

Chapter 2-1:

No apparent intervention by outside groups was elicited in the planning stages of the Project. If the program is to be successful, more outside intervention is required. (P.18)

2-2: The Catholic church should be brought into the program for diffusing educational materials. (P.18)

3-1: Games are not efficient for present sequential knowledge for learners. More work should be done in this area to develop games not only relevant, but also building blocks of learning. (P.30)

3-2: The Project staff should consider more carefully the process of moving from completely illiteracy to literacy and subsequent materials and philosophies needed to achieve this end. (P.33)

3-3: Facilitator centers should be supplied with more teaching materials since present materials are not adequate. (P.34)

3-4: Gamesshould be delivered to facilitators at different stages so that new games are continually available. (P.38)

3-5 More training is needed for outside institutions using educational materials to achieve more enhancement of "spread effect" use of materials. (P.39)

XX

mini trng program (workshop)

3-6: Facilitators should get community support for their centers since findings show that centers with community support are more successful. (P. 40)

3-7: More cassettes should be provided to the Tabacundo Radio School program since this has hindered getting programs ready and delivered. (P. 40)

3-8: The Project should establish a regional center in Riobamba to serve as liaison with the facilitator centers there. (P. 42)

3-9: New facilitators should have more intensive training in the use of games and new methodology. Old facilitators should continue to have in-service training. (P. 42)

3-10: The Project should consider actively recruiting rural communities to become facilitator centers, especially those tied to Ecuadorean institutions. (P. 46)

3-11: Facilitators should receive training not only in literacy methodology, but also new ways to present traditional subjects. Facilitators tend to teach traditional subjects in traditional methodologies. (P. 48)

3-12: Facilitators should be supplied with lanterns, chalk, and other relevant educational materials needed. (P. 55)

3-13: Participants should be better informed of the non-formal education network developing, as most have little idea of the process they are involved in. (P. 55)

4-1: The Project should make efforts to build an effective relationship with the Ministry of Education. (P. 61)

4-2: The Project should begin to work with institutions like rural cooperatives, formal schools, and social and community organizations. (P. 61)

4-3: The Project should serve as a "resource center" for various institutions, diffusing its materials and methodology. (P. 62)

5-1: More training is needed in Los Ríos Province to change teacher's methodology in the classroom, since the training received was not sufficient. (P. 71)

5-2: Full payment for Los Ríos teachers' salaries should be suspended since they are not helping to improve the educational process based on expenditures made. (P. 79)

5-3: Experienced and good teachers should be selected for pilot programs, not inexperienced teachers. (P. 81)

6-1: The Project might consider using radio more in their initial programs to increase receptivity of their programs before initiating interpersonal communication. (P. 85)

6-2: The Project might consider establishing "telecenters" in various parts of the country and tie-in to the Sesame Street program currently on television. (P. 88)

6-3: The Project might consider using radio combined with audio-visual materials to enhance literacy learning. (P. 91)

6-4: The Project should explore possibilities of utilizing the radio networks in Ecuador for transmitting literacy programs. (P. 91)

6-5: The Project should consider establishing a rural mimeo newspaper for the rural areas for new literates. (P. 93)

6-6: The Project should consider establishing a "programmed alternative learning system" that could be marketed to schools and institutions. (P. 96)

Further Study

In the course of this study there were areas found that required more study and that were beyond the scope of this contract. We are listing areas where further study could take place.

1. There is a need to study more the action process for attitude change which is the key concept in this whole program.

2. More study is required for a comprehensive look at the abilities to grasp mathematical and spelling skills as only a cursory examination was made here.

3. The whole "package" of issues related to the question, are they learning?, requires a comprehensive examination, which was beyond the scope of this evaluation.

4. In-depth study is needed in the cost-benefit ratios evident in the program which would build on the slim examples given here.

5. More in-depth study is needed into possible delivery systems that would be applicable for this experimental program, including an in-depth study alone of the possible ways of diffusing non-formal methodology within the contexts of mass media.

6. More in-depth study could be done into what other areas the Project might venture into experimentation this coming year.

Appendix A

Interview Schedules

I. Facilitator Interview Schedule

1. What is your job?
2. How long have you been a facilitator?
3. How were you selected to become a facilitator?
4. Do you like being a facilitator? Why?
5. What kind of training did you get? What was it like?
6. What materials do you use in the sessions? How often do you use them? How useful are they for teaching information?
7. What are your sessions like? Do participants attend regularly?
8. What kind of support do you get from officials? From the Project staff in Quito? From CEMA?
9. How do participants feel about attending your sessions instead of going to regular schools?
10. How do you feel about the idea of participants coming to these sessions instead of regular schools?
11. What are the advantages and disadvantages of going to these sessions?
12. Tell me about your most interesting experience with the participants.
13. How do students use what they learn?
14. Tell me your biggest problem in the sessions.

15. Why are you a facilitator?

16. What suggestions do you have for improving the program?

17. What other comments do you have about the program?

II. Participant/Facilitator Program Interview Schedule

1. What do you and your family do for work?

2. How did you get interested in attending the sessions?

3. How often do you attend the sessions?

4. How are the sessions going? What do you like most about them?

5. Do you like the games?

6. Do you play the games outside the sessions?

7. What happens in the class sessions?

8. What are you trying to learn? Why? How do you plan to use what you learn?

9. What don't you like about the sessions?

10. Tell me about your most interesting experience with the sessions?

11. What other comments do you have about the program?

III. Los Ríos Pilot Project Teacher Interview Schedule

1. What is your regular job?

2. How long have you been an adult education teacher?

3. Do you like being an adult education teacher? Why?

4. What materials do you use in the classrooms?

5. How often do you use the games and educational methods?

6. What are the classes like?

7. What kind of changes have taken place since using the games and educational materials?

8. What kind of support do you get from the MOE or the Project staff?

9. How do your participants feel about attending your sessions instead of going to regular schools?

10. How many students do you have?

11. How many have finished?

12. Do you feel the participants are learning more using the games? Why? Why not?

13. What suggestions do you have for improving the program?

14. What other comments do you have about the program?

IV. Los Ríos Pilot Project Participant Interview Schedule

1. How did you get interested in educational sessions?

2. How often do you attend the sessions?

3. How did the sessions go? What did you like most about them?

4. Did you play the games? Did you like the games?

5. What changes have taken place, if any, since using the games?

6. What are you trying to learn? Whay? How do you plan to use what you learn?

7. Do you like your teacher? Why? Why not?

8. What comments do you have about the program?

V. Los Ríos Control Group Teacher Interview Schedule

1. What is your regular job?

2. How many students do you have in your classes?

3. How many attend regularly?

4. How many students have stopped attending? Why?

5. Do you like being an adult education teacher? Why?

6. What do you do in the classes?

7. How do your students feel about attending your classes instead of going to regular schools?

8. How do you feel about the idea of participants going to these classes instead of a regular school?

9. How many students finished the school cycle?

10. Are you satisfied with the results of the classes? Why?

11. What suggestions do you have for improving the program?

12. What other comments do you have about the program?

VI. Los Ríos Control Group Participants Interview Schedule

1. How did you get interested in attending the adult education classes?

2. How often do you attend the sessions?

3. Why do you attend the adult education sessions?

4. What are you trying to learn? Why? How do you plan to use what you learn?

5. Do you like your teacher? Why? Why not?

6. What do you like most about the adult education program?

7. What do you like least about the adult education program?

8. How long do you expect to continue attending adult education classes?

9. What other comments do you have about the program?

Appendix B

Facilitator Centers

A. Old Facilitator Centers

Center	Facilitators
Tutupala	Mesías Silva Elías Valdivieso Fausto Valdivieso Angel Paredes
Guazazo	Eufemia Lara
Ulpan	Margarita Quineidi Amable Parra Carmen Porras
Balsayán	Arturo Alvarado Fausto Sánchez Rodrigo Velasteguí Alfonso Huilcapi José Alvarado
Puñachiza	Jorge Freyre
El Rosario	César Bastidas Alonso Llamuca
Sigualo Alto	Juan Pilaguana Antonino Rodríguez

B. New Facilitator Centers

San Miguel	Manuel Pacheco
Cristo Rey	Yolanda Padilla Fabiola Porras Pablo Valdivieso

San Francisco	César Valdivieso Carlos Ubidia Luis San Pedro
Tembo	César Delgado Oswaldo Delgado
Pulog	Julio Quintanilla Jorge Quintanilla
Chuquepogio	Bolívar Chávez
Choquiví	Amador Congacha Abel Matia
Quimiac	Juan Salazar Ernestina Martínez
Cuncún	Pedro Ambi Jorge Ambi
Tumba	Juan Casiguano

Appendix C

Questionnaires for Facilitator Program

Fecha _____

Cuestionario de Facilitador

_____ _____

Nombre del facilitador voluntario o maestro

Comunidad, Provincia

_____ _____

Número de habitantes en la comunidad

Número total de personas que asisten a las sesiones

1. Hombres en el grupo _____
   Mujeres en el grupo _____
   Jóvenes en el grupo _____

2. Cúantas personas asisten normalmente? _____

3. A qué hora comienzan las sesiones? _____ Cuánto duran? _____

   Cuántas veces a la semana? _____

4. Qué material educativo usa con más frecuencia? _____

   _____

5. Cuántos juegos usa en cada sesión? _____

6. Qué juegos gustan menos a los participantes? _____

   _____

7. Usan los juegos fuera de las sesiones? _____

8. Dónde tienen lugar las sesiones: una escuela? una casa?

   _____

9. Qué actividades tienen lugar en las sesiones? _____

_____

10. Usan los juegos personas que no asisten a las sesiones?

Si_____ No _____. Si la respuesta es sí, quiénes?

_____

Cuántas veces a la semana? _____

Dónde? _____

11. Qué ideas tiene usted para mejorar los juegos y las sesiones?

_____

_____

_____

_____

12. Por qué asisten personas a las sesiones? Por aprender a leer? Conseguir trabajo?, etc. _____

_____

_____

_____

Fecha _____

Cuestionario de Materiales

_____ _____
Nombre Lugar, ciudad o comunidad

_____
Organización

1. Qué juegos o materiales educativos se están usando?

_____

2. Con qué frecuencia? _____

3. Cuántas personas están usando los juegos o materiales? _____

   Hombres _____ Mujeres _____ Jóvenes _____

4. Dónde están usando los juegos o materiales? Casa? Escuela? Centro comunal? etc.? _____

_____

5. Para qué usan ustedes los juegos o materiales? _____

_____

_____

6. De qué manera han sido adoptados los juegos o materiales?

_____

7. Cuál es el juego que más le gusta? _____

_____

8. Cuál es el juego que menos le gusta? _____

_____

9. Qué quiere lograr con los juegos? _____

_____

_____

10. Qué ideas tiene usted para mejorar los juegos? _____

_____

_____

_____

_____

Table 2

ACTION AS A STEP IN AN ONGOING PROCESS OF ATTITUDE CHANGE

A classification of cases in which action simultaneously flows from an attitude and mediates changes in that attitude

Cases	Pre-action attitude	Nature of action	Impact of action
Generic case	Action called for is higher (lower) than P's modal level of commitment, but within his range of commitment	P responds to opportunities, challenges, or internal forces to take action corresponding to a level of commitment higher (lower) than his modal level	Action generates processes conducive to attitude change in form of higher (lower) modal level, and heightened (lowered) and/or narrowed (widened) range of commitment
Case 1: Opportunity	P is prepared (e.g., through anticipatory socialization) for level of commitment higher (lower) than current modal level	P utilizes opportunity to adopt previously anticipated role corresponding to a higher (lower) level of action commitment	Role enactment generates experiences, task requirements, and social expectations that lead to higher (lower) level of commitment
Case 2a: Social challenge	Level of commitment higher (lower) than current modal level is latent in P's attitude, but unexpressed because of cross-pressures or other competing forces	P yields to social pressure to take action in line with expectations of one reference group	Action generates motivational and informational processes that reinforce and facilitate movement to higher (lower) level of commitment
Case 2b: Cognitive challenge	Level of commitment higher (lower) than current modal level is latent in P's attitude, but unexpressed because of failure to draw implications of own values	P confronts implications of own values to take action in line with his revised self-expectations	
Case 3: Self-	P wants to move to level of commitment higher (lower) than is kept back by cross-pressures or other competing forces	P takes action as part of deliberate effort to obtain external support for movement to a new level	Action places P in new psychological and social and supports shift to higher (lower) level of commitment, and prevents backsliding

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